

6.0 ALTERNATIVES TO THE PROPOSED PROJECT

6.1 INTRODUCTION

The guiding principles for the selection of alternatives for analysis in this environmental impact report (EIR) are provided by the California Environmental Quality Act Guidelines (State CEQA Guidelines), which specify in Section 15126.6 that the alternatives analysis must:

- ▶ describe a reasonable range of potential alternatives to the project that could feasibly attain most of the basic objectives of the project;
- ▶ consider alternatives that could reduce or eliminate any significant environmental impacts of the proposed project, including alternatives that may be more costly or could otherwise impede the project's objectives; and
- ▶ evaluate the comparative merits of the alternatives.

The focus and definition of the alternatives evaluated in this EIR are governed by the “rule of reason” in accordance with Section 15126.6(f) of the State CEQA Guidelines. That is, the range of alternatives presented in this EIR must permit a reasoned choice by the California State Water Resources Control Board (State Water Board) decision makers. The State CEQA Guidelines (Section 15126.6) require that an EIR evaluate a “No-Project Alternative,” evaluate a reasonable range of alternatives to the project, identify alternatives that were initially considered but then rejected from further evaluation, and identify the “environmentally superior alternative.”

Although the State CEQA Guidelines (Section 15126.6[d]) require an evaluation of alternatives, they permit the evaluation to be conducted in less detail than is done for the proposed project. Consistent with Section 15126.6(d), sufficient information is provided in this EIR about each alternative to allow for a meaningful evaluation, analysis, and comparison of possible environmental impacts of the alternatives with the proposed project.

The following discussion is intended to inform decision makers and the public of potentially feasible alternatives to the proposed project that could be implemented to attain the basic project objectives while substantially reducing one or more of the potentially significant effects of the project.

6.1.1 PROJECT OBJECTIVES

As stated above, one of the key factors in considering alternatives is whether they can feasibly attain most of the basic objectives of the project. The overall objectives of the proposed regulations (described in full in Section 2.10 of this EIR) are as follows:

- ▶ Adopt statewide regulations for on-site wastewater treatment systems (OWTS) (in accordance with the requirements of Assembly Bill [AB] 885) and a statewide conditional waiver (in accordance with AB 885 and to comply with Section 13269 of the California Water Code) that are consistent with the Porter-Cologne Water Quality Control Act and other state plans and policies.
- ▶ Help to ensure that public health and beneficial uses of the state's waters are protected from OWTS effluent discharges.
- ▶ Ensure that the development of the statewide regulations and conditional waiver consider economic costs, practical considerations for implementation, and technological capabilities existing at the time of implementation.

6.1.2 IDENTIFICATION OF ALTERNATIVES

The alternatives addressed in this section have been identified by the State Water Board using input received during project stakeholder meetings, scoping meetings, and informal discussions with Regional Water Board staff; federal, state, and local agencies; and other stakeholders. A scientific peer review process also was conducted for the proposed regulations that provided input used in the alternatives creation process.

The process of proposing, identifying, and developing alternatives to the proposed regulations has been taking place since the State Water Board received its initial mandate, through the passage of AB 885 in September 2000, to craft statewide regulations addressing OWTS. During 2000–2002, the State Water Board held numerous meetings and discussions with agencies, stakeholders, and interested parties (including the U.S. Environmental Protection Agency, Coalition of California Directors of Environmental Health [CCDEH], the California Onsite Wastewater Association, and university departments performing related research). During 2003 and 2004, the stakeholders reviewed and provided input on three different drafts of the regulations. In 2005, the State Water Board circulated a notice of preparation (NOP) of an EIR and an initial study and held scoping meetings to receive comments on the scope of the EIR and draft regulations. Throughout this process, commenters and participants submitted to the State Water Board alternate regulatory concepts and approaches and suggestions for improvement. Several of the alternatives evaluated in this chapter were created based on those comments.

When the draft regulations reached a relatively complete form, the State Water Board provided the scientific portion of the proposed regulations and references (a required element of the regulatory approval process) to several academic and industry professionals who are knowledgeable in the area of OWTS design and operation. These professionals were identified through the California Environmental Protection Agency’s external contract for reviewing programs. They were independently selected by the University of California. The following individuals reviewed the draft regulations and provided input on their scientific and technical adequacy:

- ▶ William A. Yanko, Environmental Microbiology Consultant
- ▶ C. Herb Ward, Ph. D., MPH., P.E., Department of Civil and Environmental Engineering, Rice University
- ▶ Dr. Jörg E. Drewes, Associate Professor, Environmental Science and Engineering Division, Colorado School of Mines
- ▶ Chet A. Rock, Ph.D., P.E., Associate Dean, College of Engineering, University of Maine

Based on this broad range of input, the State Water Board has identified four alternatives for analysis in this EIR:

- ▶ No-Project (Status Quo) Alternative
- ▶ Prescriptive Alternative
- ▶ Matrix Alternative
- ▶ Supplemental Treatment Alternative

Other alternatives were considered but, for various reasons, have been rejected from further consideration in this EIR. These alternatives are described in Section 6.2. The four alternatives listed above are described and analyzed in Sections 6.3 through 6.6.

The State Water Board believes that the proposed project, the No-Project (Status Quo) Alternative described in Section 6.3, and the three regulatory alternatives described in Sections 6.4 through 6.6 provide a reasonable range of alternatives that will “foster meaningful public participation and informed decision making” and should be sufficient to permit a reasoned choice by decision makers (State CEQA Guidelines Section 15126.6[f]).

6.2 ALTERNATIVES ELIMINATED FROM FURTHER CONSIDERATION

This section describes those regulatory options and other alternatives that the State Water Board considered as potential alternatives to the proposed project but rejected because they did not meet most of the project objectives, as defined above and in Section 2.10 and/or because they are infeasible for economic, technological, environmental, or other reasons, as discussed below.

6.2.1 CCDEH ALTERNATIVE REGULATIONS

CCDEH has been an early and longstanding participant in the process of developing the AB 885 regulations. As an interest group representing the directors of county environmental health departments, CCDEH has an important and influential perspective on the implementation of statewide OWTS regulations. The group has participated in all stakeholder meetings and conferences at which input has been provided to the State Water Board on regulatory approach and specific details of the draft regulations. In August 2005, as part of the scoping process for the EIR, CCDEH submitted an alternate version of draft regulations (titled version 8.3.05) that addressed concerns of the organization regarding the State Water Board's regulatory approach.

State Water Board staff carefully reviewed the CCDEH alternative regulations and featured them in a presentation to the board in December 2005. Based on direction provided by the board at that meeting, State Water Board staff determined that the CCDEH alternative regulations would not substantially comply with the mandate of AB 885 to provide "Requirements for impaired waters," as stated in point 2 of the legislations, or "Minimum monitoring requirements," as stated in point 5. Because these are essential components of the project objectives as required by AB 885, State Water Board staff determined that the CCDEH alternative regulations do not, as a separate set of regulations, constitute a feasible alternative for consideration in this EIR.

6.2.2 MODEL CODE–BASED ALTERNATIVE

Another organization that has been involved in the development and review of the AB 885 regulations is the now-closed California Wastewater Research and Training Center (CWTRC). CWTRC was created to assist in improving water quality in California by seeking, developing, and promoting effective, multidisciplinary solutions to wastewater and waste management issues in California. It was involved in stakeholder meetings and provided input throughout the process of creating the regulations and identifying issues to be addressed in the EIR during the scoping period. Staff members of the CWTRC kept abreast of developments in the regulations through workshops and updates at annual meetings.

Early in the process of drafting the regulations, CWTRC provided the State Water Board with model regulations that could have been used as a model for the new OWTS regulations in California. The model regulations were based on management guidelines prepared by the U.S. Environmental Protection Agency.

State Water Board staff reviewed the model code provided by CWTRC. However, the California Water Code required elements to be included in statewide OWTS regulations that were not addressed in the model code provided by CWTRC. For this reason, the alternative as proposed by CWTRC would not meet major objectives of the project as required by AB 885. As such, State Water Board staff determined that this alternative would not constitute a feasible alternative for consideration in this EIR.

6.2.3 PLUMBING CODE ALTERNATIVE

This alternative was recommended during the scoping sessions. In this alternative, the state would work with the California Code Commission to establish OWTS rules for adoption in Appendix K of the California Plumbing Code. This alternative was rejected because Appendix K is generally oriented to plumbing fixture installation and sizing, whereas the minimum standards necessary to comply with the California Water Code include monitoring

and special provisions for OWTS adjacent to water listed under Section 303(d) of the Clean Water Act. Those types of requirements go beyond what is intended for and commonly found in the California Plumbing Code.

6.2.4 WATERSHED-BASED REGULATIONS ALTERNATIVE

An alternative was recommended during the scoping session for the state to consider watershed-based regulations in lieu of statewide regulations. This alternative was considered and rejected because it would not meet the primary project objective of fulfilling the statutory requirements for statewide minimum standards. However, regional or local governmental entities may establish such controls where they are more protective than the proposed regulations.

6.2.5 STATEWIDE MINIMUM STANDARDS WITH A HIGH LEVEL OF LOCAL DISCRETION

An alternative was recommended during the scoping sessions for the state to consider a set of regulations that allowed more flexibility through the use of exemptions and variances. Regulations that contained a high level of flexibility through the use of variances and exemptions were considered and rejected because a high level of flexibility through exemption and variances is inconsistent with the intent of the statute, which requires statewide minimum standards. A minimum standard that can be disregarded through an exemption or variance does not become a minimum standard. This alternative would not meet the intent of the statutory mandate.

6.3 NO-PROJECT ALTERNATIVE

The No-Project Alternative would involve the State Water Board deciding not to approve any statewide regulations for OWTS. The purpose of assessing a No-Project Alternative in an EIR, as required by CEQA, is to allow decision makers and the public to compare the impacts of approving the proposed project with the impacts of not approving the proposed project. However, it is not known what process would ensue if the State Water Board decides to not approve the proposed project. The California Legislature could pass new legislation that supersedes AB 885 and removes the statewide regulation requirements of California Water Code Section 13291. This would result in continuation of the existing regulatory environment with no new statewide OWTS regulations implemented (continuation of the status quo). Alternatively, the California State Legislature could pass new legislation that supersedes AB 885 with new requirements for statewide regulations, and the process would start over at the State Water Board. Still another possible scenario is that the California Legislature could pass legislation that contains its own regulations for OWTS. None of these assumptions is considered feasible for purposes of CEQA, because all would require new legislation. One of the factors considered in determining the feasibility of an alternative is legal feasibility. Reliance on new legislation is outside the control of the lead agency, the State Water Board, and requires that the State Assembly or Senate draft and pass a bill, and that it receive approval from the Governor. This is too tenuous to be considered anything other than speculative. AB 885 requires that regulations are adopted. Therefore, a No-Project Alternative is considered legally infeasible. Nevertheless, the State CEQA Guidelines require that an EIR evaluate a “No-Project Alternative.” Therefore, for the purposes of complying with this requirement, it is assumed that the State Water Board would be able to convince the California Legislature to rescind passage of AB 885 and the existing regulatory environment would continue with no new statewide OWTS regulations implemented.

6.3.1 OVERVIEW OF CONDITIONS UNDER THIS ALTERNATIVE

With the No-Project (Status Quo) Alternative, the existing regulatory setting as summarized in Chapter 3 and Tables 3-1 and 3-2 of this EIR would continue into the future. No new statewide OWTS regulations would be implemented; existing OWTS-related requirements in the Regional Water Boards’ water quality control plans (basin plans) and local agency ordinances would continue to be inconsistent from one jurisdiction to another and would be the primary means by which OWTS are regulated. Therefore, OWTS siting, design, and construction

standards would continue to vary around California, along with corrective actions, exemption criteria, minimum monitoring requirements, and requirements for determining when a system is subject to major repair.

Under existing conditions, the number of OWTS in California is expected to increase as the state's population increases, centralized sewer collection and treatment systems (including municipal treatment plants) become more expensive to construct, and development pressure spreads to land farther away from centralized systems. As described in Chapter 5 and Appendix G, approximately 1.43–1.46 million California dwelling units are expected to have OWTS by 2013. This represents an increase of approximately 110,000 dwelling units from the estimated statewide total of 1.32–1.34 million dwelling units with OWTS in 2008. This growth of OWTS over the next 5 years would be the same under the No-Project (Status Quo) Alternative, which would essentially continue the existing trends.

As described in Chapter 5.0, "Summary of Fiscal and Economic Effects of the Proposed Project," current trends indicate that the proportion of dwelling units with OWTS that include supplemental treatment units relative to conventional OWTS also will increase. The OWTS growth trends in Chapter 2 and Appendix G assume that 2% of the OWTS in the state will include supplemental treatment units by 2013, double the current (2008) condition of 1% of the statewide total. This anticipated trend shifting from conventional systems to supplemental treatment is predicated on various factors, including the following:

- ▶ As new sites suitable for conventional systems become less plentiful, development pressure may increase in more rural areas, and less suitable parcels (e.g., parcels with less adequate slope, soil, or hydrogeologic conditions) may be developed. Because OWTS with supplemental treatment units can provide adequate treatment on parcels with less ideal soil conditions and require less vertical separation to groundwater, the use of supplemental treatment may become more common, especially as it provides an opportunity for development to occur in areas where the extension of centralized collection systems is not feasible.
- ▶ The underlying technology behind various forms of supplemental treatment is likely to become more reliable and the treatments themselves are likely to become more thorough over time.
- ▶ Interest in supplemental treatment technologies may increase as OWTS owners learn more about the public health risks associated with contaminants found in all OWTS effluent and the higher concentrations of these contaminants in conventional system effluent relative to effluent treated with supplemental units.

The major differences between regulatory conditions for OWTS under the No-Project (Status Quo) Alternative and such conditions with the proposed project are summarized in Table 6-1 and described in more detail in Table 6-2. One of the major differences concerns targeted impaired areas, defined in this EIR as areas within 600 feet of surface water bodies listed as impaired by bacteria or nutrients under Section 303(d) of the Clean Water Act where a total maximum daily load (TMDL) allocation has been adopted that identifies OWTS to be contributing to the impairment. While the proportion of OWTS using supplemental treatment in the future is expected to be approximately the same (increasing by approximately 1% through 2013, as described above) in most areas statewide under both the No-Project (Status Quo) Alternative and the proposed project, the proportion of OWTS with supplemental treatment in targeted impaired areas would be substantially lower under the No-Project (Status Quo) Alternative relative to the proposed project under future conditions. This is because the proposed project includes new requirements for OWTS in targeted impaired areas, whereas no such requirement would apply for the No-Project (Status Quo) Alternative. Thus, the number of OWTS with supplemental treatment that would be installed under the No-Project (Status Quo) Alternative would continue to increase at the current rate of approximately 1% every 5 years and would be substantially less than the number of such systems installed under the proposed project, which could require conversion of up to 2,798 systems in at least the six known targeted impaired areas that would definitely be affected by the proposed project (Table 2-2) and could possibly affect up to 14,360 more systems in areas identified as impaired but for which TMDLs have not yet been adopted (Table 2-4).

**Table 6-1
 Major Differences Between the Proposed Project and Alternatives¹**

Type of Regulatory Requirement ²	No-Project (Status Quo) Alternative ³	Proposed Project	Prescriptive Alternative	Matrix Alternative	Supplemental Treatment Alternative
Minimum siting, design, and operating requirements	As under existing conditions, most local and regional agencies would not have statewide minimum requirements for lot size, density, and soil percolation rate and typically most would not allow engineered fill to be used to meet vertical separation requirements from groundwater. They also would usually require dispersal systems to have 3–5 feet of vertical separation from groundwater. Supplemental treatment units would only be allowed by some agencies, with more agencies considering or allowing them over time as the technology becomes more widely accepted. About half of all local agencies would continue to allow seepage pits and a few would allow replaced cesspools.	The proposed project (as described in Chapter 2 and in the proposed regulations and conditional waiver) would not include lot size or density restrictions, but would require specified minimum soil percolation rates and allow engineered fill (with some restrictions). It would also require septic tank risers and effluent filters and would have statewide groundwater vertical separation requirements for all new on-site wastewater treatment systems (OWTS) (2 feet of separation for systems with supplemental treatment units and 3 feet for conventional systems). The proposed regulations would establish performance requirements for OWTS with supplemental treatment units. New infiltrative surface application rates would generally be more conservative than most existing regulations. Seepage pits would only be allowed if a site is not suitable for other types of dispersal systems, and cesspools would no longer be allowed for new or replaced OWTS.	This alternative would require more specific, detailed, and comprehensive minimum siting and design requirements than the proposed project or other alternatives. These requirements include minimum setback distances, septic tank design standards, and detailed soil testing procedures. A table of OWTS management and risk levels would guide local and regional agency siting and design decisions under a variety of specifically identified site conditions.	This alternative includes statewide requirements for lot size, density, soil percolation rate, and engineered fill that could preclude OWTS development in some areas. This approach would also require technical groundwater studies in certain situations, a more stringent pathogen standard for some OWTS with supplemental treatment units, and an extra 1 foot of vertical separation for systems with supplemental disinfection. Groundwater studies would allow Regional Water Quality Control Boards (Regional Water Boards) to establish less stringent standards for the performance of nitrogen.	All existing conventional OWTS would need to upgrade to include supplemental treatment units within 9 years from when new regulations go into effect; all new and replaced OWTS would need to include supplemental treatment for nitrogen and BOD, and TSS. All other aspects of the proposed project would apply.
Requirements for OWTS adjacent to impaired water bodies	Regional Water Board adoption and implementation of total maximum daily loads (TMDLs) for impaired water bodies would continue. Regional Water Boards have identified approximately 320 impaired surface water bodies in the state where TMDLs indicate that OWTS are	With some exceptions, all OWTS within 600 feet of impaired water bodies (where TMDLs have been adopted and OWTS are identified as contributing to impairment) would need to meet performance requirements that can be met by some OWTS with supplemental treatment units but not by	Same as proposed project	Same as proposed project	Same as proposed project

**Table 6-1
Major Differences Between the Proposed Project and Alternatives¹**

Type of Regulatory Requirement ²	No-Project (Status Quo) Alternative ³	Proposed Project	Prescriptive Alternative	Matrix Alternative	Supplemental Treatment Alternative
	contributing to impairment.	conventional systems. Currently, 10 such impaired water bodies with have adopted TMDLs.			
Requirements authorizing local implementation	The existing OWTS regulatory and permit approval process would continue, with local agencies often authorized to help Regional Water Boards implement their basin plans and OWTS-related policies.	The proposed project would continue to rely on the existing OWTS regulatory and permit approval process to implement new design, siting, performance, and monitoring requirements. This approach would not change existing relationships between Regional Water Boards and local agencies (although new memorandum of understandings may be required), and would allow local agencies to enforce more environmentally protective requirements.	Same as proposed project	Same as proposed project	Same as proposed project
Corrective action requirements	Local agencies would continue to undertake corrective actions using their own local ordinances or basin plans when these are more restrictive.	When corrective actions are identified as being needed, the system owner would have 90 days to correct the problem; an extension is possible, but not beyond 180 days.	Same as proposed project	Same as proposed project	Same as proposed project
Minimum monitoring requirements	Groundwater quality near OWTS would continue to be unmonitored for the most part, and septic tanks would typically only be inspected haphazardly or as required by the local agency. Monitoring of effluent from OWTS with supplemental treatment units would be variable, as would the use of alarms to help monitor the performance of these advanced systems. Also, groundwater would be unmonitored in areas with both OWTS and domestic wells. Groundwater levels for siting	OWTS owners would need to have septic tanks inspected every 5 years, and effluent from all OWTS with supplemental disinfection would need to be monitored weekly. Owners of OWTS with supplemental treatment units would also be required to equip their systems with visual or audible alarms. Groundwater would be monitored in areas with both OWTS and domestic wells. Minimum groundwater levels for siting OWTS would be established	Same as proposed project	Same as proposed project, except this alternative would not require groundwater monitoring if OWTS on parcels of 3 acres or greater.	Same as proposed project

**Table 6-1
 Major Differences Between the Proposed Project and Alternatives¹**

Type of Regulatory Requirement ²	No-Project (Status Quo) Alternative ³	Proposed Project	Prescriptive Alternative	Matrix Alternative	Supplemental Treatment Alternative
	OWTS would vary from local agency to local agency.	statewide.			
Exemption criteria	In general, local agencies would continue to allow exemptions using their own criteria and on a case-by-case basis. A few water quality control plans would continue to contain exemptions.	The proposed regulations would allow few exemptions for deviating from the minimum requirements set forth therein. Regional Water Boards could adopt waste discharge requirements that allow exemptions from some requirements. Minor exemptions would be allowed from the methods for groundwater level determination. OWTS in impaired areas would be exempt from conversion to supplemental treatment if certain specific conditions are met.	Same as proposed project	Same as proposed project	Same as proposed project
Requirements for determining when an OWTS is subject to a major repair	Definitions of major repair vary around the state, with only three of the nine Regional Water Boards requiring major repairs when effluent is surfacing. Most local agencies that have such a definition typically require repairs if effluent is surfacing or a system is not operating as designed.	A major repair would be defined as any repair required as a result of surfacing effluent in an OWTS constructed after the proposed regulations are implemented. Owners of systems requiring major repairs would need to meet specified time limits.	Same as proposed project	This alternative would create new special districts at the local level to oversee maintenance and repairs of OWTS with supplemental treatment units.	Same as proposed project

Notes:

¹ Unless otherwise described in this table, the major features of the proposed project and the Prescriptive, Matrix, and Supplemental Treatment Alternatives are the same; additional information regarding how these alternatives differ is found in Sections 6.3 through 6.6 and in Tables 6-2 through 6-5. The No-Project Alternative with Statewide Regulations is not included in this comparison table because any discussion of the content of such an alternative would be purely speculative.

² These seven types of regulatory requirements are from Assembly Bill 885 and are what the California Legislature has required, at a minimum, to be included in the new statewide OWTS regulations.

³ The characterization of conditions under the No-Project (Status Quo) Alternative assumes that existing regulatory conditions would continue and is based on the regulatory comparison summarized in Chapter 3, Tables 3-1a, 3-1b, and 3-2. The No-Project Alternative with Statewide Regulations is not included in this comparison table because any discussion of the content of such an alternative would be purely speculative.

Source: Data compiled by EDAW in 2008.

<p>Table 6-2 Major Differences Between the Proposed Project and the No-Project (Status Quo) Alternative</p>		
Topics	No-Project (Status Quo) Alternative	Proposed Project
1. Minimum Operating Requirements		
Design, siting, and operational requirements		
<ul style="list-style-type: none"> General overview 	Minimum operating requirements would continue to vary among local agencies throughout California, with no minimum standards. Some would be similar to those found in the alternatives, while others would differ notably (as indicated in Tables 3-1 and 3-2).	<p>The proposed project would impose statewide minimum siting, site monitoring, and performance standards for conventional systems (e.g., seepage pits, septic tank requirements).</p> <p>New conventional OWTS must have at least 3 feet of continuous, unsaturated soil separating the bottom of the dispersal field and high groundwater, while new OWTS with supplemental treatment units must have 2 feet of unsaturated soil depth. Seepage pits must have at least 10 feet of vertical separation to groundwater whether or not supplemental treatment is included, and at least 10 feet of unsaturated soil depth below the bottom of the seepage pit and an impermeable layer, unless supplemental treatment (disinfection) is included. Under certain soil conditions, both conventional OWTS and systems with supplemental treatment must use pressurized effluent distribution.</p> <p>The proposed project would not replace existing setback requirements.</p>
<ul style="list-style-type: none"> Groundwater (vertical) separation and soil percolation rate requirements 	Most Regional Water Boards, counties, and cities would continue to require all types of on-site wastewater treatment systems (OWTS) dispersal systems to have 5 feet of vertical separation from groundwater (although variances are often given to allow siting with less separation), while a few allow siting with 3 feet or less of separation.	
<ul style="list-style-type: none"> Setback requirements¹ 	Most local agencies would continue to enforce setback requirements for minimum distances to buildings, wells, and water bodies through adoption or modification of the Uniform Plumbing Code (UPC) standards or similar requirements.	<p>Performance standards are imposed only for new OWTS with supplemental treatment; however, conventional OWTS would still need to comply with Regional Water Board water quality control plans (basin plans) and local agency standards when more stringent than the basin plans. Statewide minimum performance standards are established for OWTS with supplemental treatment units.</p> <p>Specific maximum application rates apply when designing and sizing OWTS dispersal systems. These rates, in some cases, would be more stringent than local agency requirements because of the use of bottom area only.</p>
<ul style="list-style-type: none"> Performance standards 	Discharges from OWTS must comply with basin plan requirements and local agency requirements when those are more restrictive than the basin plan. Regional Water Boards and many local agencies do not have performance standards for OWTS with supplemental treatment units because allowance of such systems is unusual. Some local agencies allow use of supplemental treatment, but only under certain conditions ² .	
<ul style="list-style-type: none"> Infiltrative surface application rates 	Local jurisdictions typically adopt or modify UPC application rates.	
<ul style="list-style-type: none"> Lot size or density restrictions 	Lahontan and Santa Ana Regional Water Boards and a few local agencies have (and would continue to apply) lot size or density restrictions when making OWTS siting decisions.	

**Table 6-2
Major Differences Between the Proposed Project and the No-Project (Status Quo) Alternative**

Topics	No-Project (Status Quo) Alternative	Proposed Project
<ul style="list-style-type: none"> Engineered fill allowance 	No Regional Water Boards allow engineered fill; few local agencies (e.g., Amador, Sonoma, and Stanislaus County) allow engineered fill.	If a site's native earthen material is not sufficient to meet minimum separation requirements, a narrowly defined engineered fill can be used under specific conditions, with pressurized distribution of effluent, to replace up to 1 foot of native soil. However, more stringent requirements would still apply at the Regional Water Boards and the local level.
<ul style="list-style-type: none"> Restrictions on what types of wastewater can be treated 	Virtually all local jurisdictions prohibit the treatment of certain wastes or waste sources by OWTS (hazardous wastes as defined by Title 24 of the California Code of Regulations [CCR], biocides, and products listed in Title 22, Chapter 41, Division 4.5 of CCR). Regional and local OWTS regulations would continue to contain language very similar to that included in the proposed project.	Existing Title 22 and 24 restrictions would continue to apply; high-strength wastewater intended for treatment in OWTS must be treated to meet domestic wastewater quality levels before discharge and owners would need to submit a report of waste discharge
<ul style="list-style-type: none"> Seepage pits 	About half of local jurisdictions allow the use of seepage pits. The UPC requires at least 10 feet of vertical separation to groundwater.	Seepage pits would only be allowed if a qualified professional has determined that a site is not suitable for other types of dispersal systems, at least 10 feet of vertical separation to groundwater can be achieved, and at least 10 feet of unsaturated soil depth to an impermeable layer is available when using conventional treatment or less than 10 feet of unsaturated soil depth to an impermeable layer when using an OWTS with supplemental treatment.
<ul style="list-style-type: none"> Operation and maintenance manuals 	For the most part, counties do not require operation and maintenance manuals only for OWTS with supplemental treatment units and especially not for conventional systems.	Qualified professionals must prepare operation and maintenance manuals for all new and replaced OWTS that include the listing of any substances that may cause pollution or a nuisance.
<ul style="list-style-type: none"> Cesspools 	Very few rural counties allow limited use of cesspools.	Cesspools would no longer be allowed for new or replaced OWTS.
<ul style="list-style-type: none"> Groundwater level determinations 	OWTS owners or their contractors typically need to document underlying groundwater levels in accordance with UPC and permitting agency requirements, using a variety of techniques.	Before installation of a new OWTS, if groundwater levels are not known to be greater than 10 feet below the surface, qualified professionals must follow specific methods to determine groundwater levels. Other methods may be followed if included in basin plans.
<ul style="list-style-type: none"> Septic tank standards 	About 50% of counties currently require septic tank risers; only a few counties require septic tanks to be designed to International Association of Plumbing and Mechanical Officials (IAPMO) standards.	Opening risers providing access to septic tanks would need to be watertight and placed within 6 inches of grade, and septic tanks must meet IAPMO standards or be certified by a licensed engineer as meeting industry standards.
<ul style="list-style-type: none"> Filter requirements 	None of the Regional Water Boards currently require filters, and approximately one-third of counties require them.	The proposed project would require certified septic tank effluent filters (3/16 inch) to be included in all new and replaced systems.
<ul style="list-style-type: none"> Groundwater mounding³ and other unique studies 	A few local agencies currently require groundwater mounding studies where relatively high OWTS densities and/or underlying geologic conditions could lead to groundwater mounding.	Groundwater mounding or other unique studies would not be required by the proposed project.

**Table 6-2
Major Differences Between the Proposed Project and the No-Project (Status Quo) Alternative**

Topics	No-Project (Status Quo) Alternative	Proposed Project
2. Requirements for OWTS Adjacent to Impaired Water Bodies		
Protection of impaired surface water bodies where OWTS contribute to impairment	Contributions of pollutants by OWTS (along with other sources of contaminants) are being assessed by Regional Water Boards as part of the total maximum daily load (TMDL) development and implementation process.	All new OWTS within 600 feet of certain surface water bodies would need to meet performance requirements using supplemental treatment units; exceptions to this requirement are described below. ⁵ Existing systems within 600 feet must be evaluated and may need to be retrofitted.
3. Requirements Authorizing Local Implementation		
<ul style="list-style-type: none"> Use of waste discharge requirements (WDRs) and conditional WDR waivers Regional Water Board relationship to local agencies 	OWTS owners would continue to obtain either WDRs or conditional WDR waivers from their local Regional Water Board. Local permitting agencies would still issue building permits and repair permits (see the corrective action requirements below). Regional Water Boards would continue to issue WDR waivers for small OWTS. Most, but not all, Regional Water Boards use memoranda of understanding (MOUs) to formalize their relationship and responsibilities with local agencies to enforce the applicable basin plans.	<p>The State Water Board is proposing a statewide waiver in conjunction with the proposed regulations; Regional Water Boards may adopt subsequent waivers or WDRs that are more restrictive. The local permitting agencies would issue building permits.</p> <p>The proposed regulations establish minimum statewide requirements for construction, operation, and maintenance of OWTS. Local agencies would be allowed to help the State Water Board and Regional Water Boards implement the new statewide regulations through agreement, adopted resolution, or an MOU. Any MOU, adopted resolution, or similar agreement must require compliance with the new regulations and the applicable basin plan.</p>
Large and commercial OWTS owners	Owners of new and/or expanded large systems and/or commercial systems would continue to notify Regional Water Boards because most of them would need WDRs; however, the flow rate that determines which systems are “large” would continue to vary. Maximum allowable flow rates vary throughout the state and range from 1,500 gallons per day (gpd) to 5,000 gpd.	Owners of new and/or expanded large systems (with daily wastewater flows of 3,500 gpd or more) would continue to file reports of waste discharge with Regional Water Boards.
4. Corrective Action Requirements		
Corrective actions when OWTS fail to meet regulatory requirements	Local agencies would continue to undertake corrective actions using their own local ordinances or basin plans where these are more restrictive.	Where corrective actions are identified as being needed, the system owner would have 90 days to correct the problem; an extension would be possible, but not beyond 180 days.
5. Minimum Monitoring Requirements		
<ul style="list-style-type: none"> Groundwater quality monitoring 	In general, groundwater quality near an OWTS is not monitored; setbacks from domestic water supply wells are intended to provide some protection.	Groundwater quality near existing and new OWTS would be monitored every 5 years through mandatory testing of water from domestic or monitoring wells for bacteria and a suite of water quality constituents. OWTS owners that do not have a domestic well on their property would not need to comply with this requirement.
<ul style="list-style-type: none"> Septic tank inspections 	Very few local agencies require septic tank inspections. These would continue to take place, but such inspections would mostly occur during real estate transactions.	Owners of conventional systems and OWTS with supplemental treatment units would be required to have inspections to evaluate the accumulation of septic tank solids every 5 years.

**Table 6-2
Major Differences Between the Proposed Project and the No-Project (Status Quo) Alternative**

Topics	No-Project (Status Quo) Alternative	Proposed Project
<ul style="list-style-type: none"> Monitoring of effluent from OWTS with supplemental treatment units 	Monitoring of effluent from OWTS with supplemental treatment units would continue to be rare. Compliance with supplemental treatment operation and maintenance manuals would continue to be voluntary in some areas and mandatory in others.	Effluent from all OWTS with supplemental treatment for disinfection would be monitored weekly to ensure compliance with related performance standards. Owners of all other OWTS with supplemental treatment units would also be required to comply with their operation and maintenance manuals.
<ul style="list-style-type: none"> Alarms and pump systems for supplemental treatment units 	Alarms and pump systems for supplemental treatment units would be used in some situations but would not be required in all areas.	All supplemental treatment units and OWTS using pump systems would need to be equipped with visual or audible alarms and typically telemetric alarms to alert OWTS owners and their service providers in the event of system malfunctions.
6. Exemption Criteria		
Criteria for allowing exemptions	In general, local agencies would continue to allow exemptions using their own criteria and on a case-by-case basis. A few basin plans allow OWTS exemptions under specified situations.	The proposed regulations allow few exemptions for deviating from the minimum requirements set forth therein. Regional Water Boards would be allowed to adopt waste discharge requirements that allow exemptions from some requirements. Minor exemptions would be allowed from the methods for determination of groundwater levels. OWTS in impaired areas would be exempt from conversion to supplemental treatment if certain specific conditions are met.
7. Requirements for Determining When an OWTS is Subject to a Major Repair		
Requirements for determining when a system needs a major repair (such a situation is generally considered to be needed when a system is deemed to be “failing”)	There is currently no consistent definition of major repair. Six of the nine Regional Water Boards do not have requirements for determining when a major repair is needed, and the other three require major repairs when effluent from a system is surfacing or when public health or beneficial uses could be at risk or impaired. Local agency requirements vary, and if this topic is addressed, their criteria are usually similar to the Regional Water Board criteria, or may also address whether systems are operating as designed.	A major repair, as defined for an OWTS constructed after the proposed regulations are implemented, is defined as any repair required as a result of surfacing effluent. All owners of OWTS requiring major repairs would have to correct the malfunctioning OWTS within 90 days of being notified by a local agency or Regional Water Board. Regional Water Boards may exempt a property from the 90-day requirement and extend the time frame, but such exemptions shall not extend beyond 180 days.
Notes: <ol style="list-style-type: none"> ¹ Setback restrictions typically include minimum distances that must be adhered to when siting an OWTS (e.g., 100 feet of separation between an OWTS and drinking water well) ² The counties that do allow supplemental treatment systems usually allow them when such conditions as shallow groundwater, nitrate problems, or other problem situations exist. ³ Groundwater mounding refers to the phenomenon of disposed effluent causing a rise, or mound, of the underlying groundwater elevation. ⁴ This requirement applies to surface water bodies that have been impaired by nitrogen or pathogens, and where Regional Water Boards have adopted a TMDL and have identified OWTS as contributing to impairment. ⁵ OWTS that would otherwise need to comply with the requirement above do not need to do so when (1) OWTS owners commit to connect to a wastewater collection and treatment system regulated through WDRs, or (2) a Regional Water Board has adopted a TMDL requiring implementation of a wastewater management plan that would result in either elimination or reduction of the OWTS contribution to the impairment. Source: Data compiled by EDAW in 2008		

The TMDL development process is ongoing and other water quality restrictions could be enacted (in addition to or instead of restrictions related to the TMDL process) that would affect the future proportion of OWTS in targeted impaired areas that are conventional or that include supplemental treatment. For this reason, the full impact of the proposed regulations in targeted impaired areas is difficult to predict. The Regional Water Boards are already in the process of developing TMDLs for the 320 surface water bodies listed in Tables 2-2 through 2-4, along with many others. In areas where OWTS are determined to be contributing to the impairment of the water body, the TMDL standards may lead to future restrictions on OWTS development, such as those already imposed on systems in the Napa River, Sonoma Creek, Tomales Bay, and the San Lorenzo River Basin (Table 2-3). This in turn could directly or indirectly lead to the installation of more supplemental treatment systems relative to conventional systems, as homeowners choose to invest in more advanced OWTS technology because of the TMDL-driven mandate to reduce the contaminant contribution to the nearby water body.

Similar regulatory pressures could operate on homeowners under both the No-Project (Status Quo) Alternative and the proposed project. However, the requirement to add supplemental treatment is mandatory and tied to a relatively short time frame in the proposed project for homeowners in targeted impaired areas (immediate effect for new systems, no more than 5 years for existing systems). However, any restrictions or conversion requirements that the Regional Water Boards impose through the ongoing TMDL process under the No-Project (Status Quo) Alternative could take several years to be adopted and implemented in the 310 watersheds where OWTS are contributing to impairment but where TMDLs have not been adopted, and in the 10 watersheds where OWTS are contributing to impairment and TMDLs have been adopted (including those targeted impaired areas listed in Table 2-2 and the four additional watersheds that would be exempted from converting to supplemental treatment, listed in Table 2-3). Therefore, under the No-Project (Status Quo) Alternative, fewer OWTS with supplemental treatment would likely be installed in the watersheds of targeted impaired water bodies than if the proposed project were implemented.

As described in Table 6-2, there are other notable differences between OWTS-related regulatory conditions under the No-Project (Status Quo) Alternative and regulatory conditions under the proposed project. The following list of regulatory requirements included in the proposed project are typically not found in the existing OWTS regulations of most local and regional agencies:

- ▶ mandatory inspections every 5 years to evaluate the accumulation of septic tank solids,
- ▶ mandatory use of septic tank effluent filters and septic tank risers for new and replaced OWTS,
- ▶ under certain soil conditions, required use of pressurized effluent distribution by both conventional OWTS and OWTS with supplemental treatment units,
- ▶ mandatory groundwater monitoring by OWTS owners who also own a domestic water supply well,
- ▶ allowance of seepage pits only where other types of OWTS are not feasible,
- ▶ disallowance of cesspools for new development or to replace existing OWTS,
- ▶ use of only the bottom area of the dispersal field when calculating the infiltrative surface application rates,
- ▶ minimum statewide performance standards for supplemental treatment units, and
- ▶ mandatory visual or audible alarm systems on all supplemental treatment units and OWTS with pressure distribution to be activated in the event of system failure.

Based on this list of variations between existing conditions/status quo and the proposed project, this analysis of environmental impacts of the No-Project (Status Quo) Alternative assumes that existing regulatory conditions would continue into the future. Actual regulatory conditions may differ in some regions of the state, especially in

areas where local or regional regulations are more environmentally protective than those included in the proposed project.

POTENTIAL ENVIRONMENTAL IMPACTS

With the No-Project (Status Quo) Alternative, as new OWTS are built, including approximately 110,000 new systems by 2013, the typical environmental impacts associated with new OWTS construction and discharges would continue to occur. These typical OWTS impacts, which are described in Chapter 4, “Environmental Analysis,” include excavation of trenches and other earthwork that can cause the erosion of soil into nearby surface waters; operation of construction vehicles, resulting in traffic, emission of air pollutants, and generation of noise; and operation of septage pumper trucks, resulting in traffic, emission of air pollutants, generation of noise, and use of space in a landfill or capacity in a wastewater treatment plant. Discharges of effluent would continue at existing OWTS sites, and the water quality, public health, biological resources and land use impacts associated with such discharges are discussed below.

Water Quality and Public Health

Existing OWTS (Conventional and Supplemental) Statewide—Pathogens and Nitrogen

OWTS discharges would continue throughout the state with the No-Project (Status Quo) Alternative, the same as under existing conditions. As described in Impacts 4.1-4, 4.1-5, 4.1-8, and 4.1-9 in Section 4.1, ongoing discharges from conventional OWTS statewide are violating water quality objectives (WQOs) with regard to nitrogen and, in some areas, may also be violating WQOs with regard to pathogens. The quality of ongoing effluent discharges from OWTS with supplemental treatment units is improved compared to discharges from conventional systems. However, not all supplemental treatment technologies are capable of meeting WQOs for nitrogen and depth to groundwater may be insufficient in some areas to ensure that discharges from all supplemental treatment units can meet pathogen WQOs. Because the No-Project (Status Quo) Alternative would continue the existing regulatory conditions rather than establishing minimum statewide standards for treatment levels of effluent as under the proposed regulations, violations of WDRs would continue throughout the state, including in areas that have been identified as impaired under Section 303(d) of the Clean Water Act. However, this element of the proposed regulations would apply primarily to new and replaced systems statewide and to OWTS with supplemental treatment units. In general, the impact of existing OWTS under the No-Project (Status Quo) Alternative with regard to compliance with pathogen and nitrogen WQOs would be similar to that of the proposed project for existing conventional OWTS in areas of the state that are not determined to be targeted impaired areas.

New and Replaced Systems Statewide Other Than Targeted Impaired Areas—Pathogens and Nitrogen

As described above, the No-Project (Status Quo) Alternative would continue the existing regulatory conditions rather than establishing minimum statewide standards for treatment levels of effluent as under the proposed regulations. Therefore, the potential for violations (exceedances) of existing WQOs would continue throughout the state because new and replaced systems statewide would not be subject to new standards. In general, the impact of new and replaced systems under the No-Project (Status Quo) Alternative with regard to compliance with pathogen and nitrogen WQOs would be more severe than that of the proposed project.

New and Replaced Systems in Targeted Impaired Areas—Pathogens and Nitrogen

In areas where OWTS contribute to impairment of 303(d)-listed water bodies, exceedances of WQOs would likely continue under the No-Project (Status Quo) Alternative, although the magnitude and timing of such discharges is not clear given the regulatory uncertainty surrounding the TMDL proceedings in these areas. While Regional Water Boards may take additional actions *eventually* in most of these areas to reduce OWTS

contributions to impairment, such progress is likely to be slow and may vary from region to region. For example, of the 320 impaired water bodies listed as impaired for pathogens or nitrogen, TMDLs or similar regulatory actions have been adopted in only 10 of these watersheds (Tables 2-2, 2-3, and 2-4). OWTS contributions to impairment, if any, will be determined in subsequent TMDLs. After TMDLs are adopted in all of these areas, it will take longer to successfully implement the TMDLs to the point where OWTS contributions to impairment are substantially reduced; in some cases, Regional Water Boards may decide not to reduce OWTS contributions to impairment as extensively as proposed by the State Water Board in the proposed regulations. Thus, the No-Project (Status Quo) Alternative would not lead to the same level of water quality improvements as the proposed project in targeted impaired areas. In addition, the public health benefits associated with the proposed project's water quality improvements in targeted impaired areas also would not occur to the same extent under this alternative.

Other Operational Impacts

The frequency of OWTS tank inspections and septage pumping under the No-Project (Status Quo) Alternative would be the same as under existing conditions. Septic tank effluent filters would continue to be used in some jurisdictions but would not be required statewide. Qualified service professionals would not be required to be involved in OWTS siting and design on a consistent basis. Therefore, the beneficial water quality and public health impacts associated with the proposed project's more frequent inspections and septage pumping, use of septic tank effluent filters, and designation of qualified professionals (described in Impact 4.1-2 and 4.1-4) would not occur under this alternative. On the other hand, the less frequent septage pumping associated with this alternative (because inspections every 5 years would not be required) would reduce the proposed project's increase in septage transport and treatment at centralized treatment plants and increase in biosolids disposal, although this impact is determined to be less than significant (Impact 4.1-11).

A number of other types of regulatory requirements included in the proposed project would either continue to be implemented rarely under the No-Project (Status Quo) Alternative or, in some parts of the state, would not occur at all. These requirements including depth to groundwater determinations, use of pressurized effluent distribution, more stringent performance requirements for OWTS with supplemental treatment units, more restrictive methods for estimating surface infiltrative rates, and restrictions on the use of seepage pits and cesspools. The beneficial water quality and public health impacts associated with these regulatory requirements of the proposed project would either not occur at all in some areas under this alternative, or would occur but to a lesser extent. In some cases, local and regional agencies may require some but not all of these new regulatory requirements, and therefore, some of the water quality and public health benefits associated with specific requirements included in the proposed project would occur, but likely not all of the benefits. Overall, the absence of this suite of regulatory requirements would increase the potential for impacts on water quality and public health under the No Project (Status Quo) Alternative relative to the proposed project.

Biological Resources

A variety of habitats across the bioregions of California may be affected by OWTS; however, the most affected habitats are those that are associated with 303(d)-listed water bodies where the TMDLs for pollutants indicate that OWTS are contributing to bacteriologic and/or nutrient impairment. OWTS are more likely to cause water quality issues in wetter habitats such as vernal pools, riparian scrub and forests, seasonal and perennial wetlands, marshes, wet and dry meadows, lakes and ponds, rivers, seasonal and perennial drainages, estuaries, and bays. Other habitats may also be affected but to a lesser extent. Groundwater that is affected by OWTS contamination could intersect with surface water bodies and thereby contaminate them as well, affecting the habitat of aquatic organisms living in and downstream of those water bodies.

Many of the relative improvements in biological resource impacts associated with the proposed project, as described in Section 4.2, would not occur under the No-Project (Status Quo) Alternative. Some beneficial impacts on biological resources could eventually occur in targeted impaired areas once TMDLs are adopted and

implemented, but these improvements would take longer to occur or, in some impaired watersheds, may not occur at all if Regional Water Boards do not target OWTS as aggressively as the proposed project. This alternative would also fail to provide other indirect beneficial impacts on biological resources. These benefits include reduced contamination of groundwater leading to lower levels of pollutants in surface waters. The reduced pollutants would be a result of:

- ▶ the use of alarms to indicate malfunctioning supplemental treatment units,
- ▶ mandatory 5-year groundwater monitoring,
- ▶ the use of septic tank filters on all new and replaced systems, and
- ▶ more frequent septic tank inspections and septage pumping.

Overall, the No-Project (Status Quo) Alternative would fail to provide improvements in biological conditions that could be expected to occur with the proposed project.

Land Use

As described in Section 4.3, several key factors control the interaction between land use and OWTS in California under the existing regulatory framework:

- ▶ Development and land use in California are controlled and guided at the local level through the respective adopted general plans and zoning ordinances of cities and counties throughout the state.
- ▶ Activities in the state that affect water quality are regulated at the state level, and Regional Water Boards share that regulatory responsibility with local governing bodies.
- ▶ Cities and counties implement policies, guidelines, and ordinances to manage on-site sewage disposal.

Certain activities of the State Water Board are subject to environmental review under CEQA. Adoption of a rule or regulation requiring the installation of pollution control equipment, or a performance standard or treatment requirement, requires preparation of an environmental analysis, which must include an analysis of the reasonably foreseeable environmental impacts of the methods of compliance (Public Resources Code Section 21159, State CEQA Guidelines Section 15187).

The proposed project would not alter the existing land use regulatory structure. Local agencies would continue to be responsible for making decisions about which parcels may be developed and where OWTS would be permitted, as long as they require compliance with the minimum performance standards and other requirements identified in the proposed regulations. Local agencies and Regional Water Boards with less stringent requirements (such as those that allow OWTS in a fractured rock environment with less than 2–3 feet of soil depth to groundwater or bedrock) must comply with these minimum standards. This could result in a shift in the development patterns or the types or design characteristics of OWTS allowed in some areas, as these local agencies and Regional Water Boards identify technological and regulatory approaches that allow development to continue in accordance with the more protective requirements of the proposed regulations.

If a local agency or Regional Water Board has more stringent requirements than those included in the proposed regulations (such as requiring 5 feet of soil depth to groundwater instead of the 2–3 feet required by the proposed regulations), those requirements may continue to be applied. A shift in the development patterns or the types or design characteristics of OWTS allowed in some areas could result, if those agencies decide to modify their more stringent regulations to match those of the proposed project. However, if a local agency or Regional Water Board with more stringent requirements decided to modify those requirements to comply with the less stringent minimum standards in the proposed regulations, that agency would be required to evaluate that action as a project under CEQA to evaluate the potential environmental impacts of reducing the environmental protections in those areas. Thus, that action would not be an impact attributable to the proposed project but, rather, would be a

separate, independent action by the decision makers of that agency. For these reasons, as described in Section 4.3, the impact of the proposed project on land use would be less than significant.

The No-Project (Status Quo) Alternative would continue the existing land use regulatory structure; each local agency and Regional Water Board would continue to implement its own regulations relating to land use, development, and OWTS siting and construction. Because the proposed project would not alter the regulatory process for land use decisions, there would be no difference between the proposed project and the No-Project (Status Quo) Alternative with regard to land use. However, some of the benefits of the proposed project would not occur with the No-Project (Status Quo) Alternative.

6.4 PRESCRIPTIVE ALTERNATIVE

6.4.1 OVERVIEW OF CONDITIONS UNDER THIS ALTERNATIVE

This alternative represents the regulatory approach of providing prescriptive standards for OWTS siting, site monitoring, and performance standards and has been called by some the “one size fits all” approach. Although this characterization is an oversimplification, this approach puts a heavy emphasis on standardized, comprehensive, and detailed requirements for the siting and design of OWTS. These requirements would primarily be based on the existing California Plumbing Code, which has been used by many California counties as the basis for their regulation of OWTS; thus, many of the standards used in this alternative are already being enforced in many of California’s counties. The regulations under this alternative would be similar to an early draft of the OWTS regulations distributed to stakeholders in January 2003.

As summarized in Table 6-1 and described in more detail in Table 6-3, the major differences between the Prescriptive Alternative and the proposed project are the level of detail and comprehensiveness of the minimum siting, design, and operating requirements included. The Prescriptive Alternative includes detailed requirements regarding factors such as minimum setback distances, OWTS design and construction standards, and soil testing procedures, including the following:

- ▶ Various minimum setback distances must be adhered to when siting an OWTS. These address setbacks from surface water bodies, land surface features, wells, and other infrastructure facilities (e.g., 100 feet of horizontal separation must be maintained between an OWTS and drinking water well).
- ▶ Septic tank design standards including minimum diameter tank access openings and two access openings instead of one.
- ▶ Detailed soil testing procedures must be followed when siting and designing OWTS.
- ▶ An OWTS management and risk-level table would be adopted as part of the regulations proposed with the Prescriptive Alternative to guide local and regional agencies in managing a wide range of site conditions and establishing appropriate management levels. The table would specify management actions that permitting agencies must take (including use of different types of treatment, disinfection, and dispersal systems and acquisition of operating permits, monitoring, and other management actions) based on the complexity of the treatment system, environmental sensitivity, and public health risks identified for a specific OWTS. This table would be similar to one originally developed by the U.S. Environmental Protection Agency (EPA) in 2003 to help guide permitting agencies throughout the country.

Similar to the proposed project, the intent of the Prescriptive Alternative would be to help ensure that the same minimum design, siting, and operating standards are used throughout California. While some local and regional agencies would still enforce their own OWTS regulatory requirements (because they would be more environmentally protective than those included in the alternative), this alternative would require some local and

<p>Table 6-3 Major Differences Between the Proposed Project and the Prescriptive Alternative</p>		
Topics	Proposed Project	Prescriptive Alternative
1. Minimum Operating Requirements		
Design, siting, and operational requirements		
<ul style="list-style-type: none"> General overview 	The proposed project would impose statewide minimum siting, site monitoring, and performance standards for conventional systems (e.g., seepage pits, tank requirements).	This alternative includes specific and comprehensive requirements regarding siting, site monitoring, and performance (e.g., setbacks, design and construction standards, soil testing procedures).
<ul style="list-style-type: none"> Groundwater (vertical) separation and soil percolation rate requirements 	New conventional OWTS must have at least 3 feet of continuous, unsaturated soil separating the bottom of the dispersal field and high groundwater, while new OWTS with supplemental treatment units must have 2 feet of unsaturated soil depth. Seepage pits must have at least 10 feet of vertical separation to groundwater whether or not supplemental treatment is included, and at least 10 feet of unsaturated soil depth below the bottom of the seepage pit and an impermeable layer unless supplemental treatment (disinfection) is included. Under certain soil conditions, both conventional OWTS and systems with supplemental treatment must use pressurized effluent distribution.	Same as proposed project
<ul style="list-style-type: none"> Setback requirements¹ 	The proposed project would not replace existing setback requirements.	Comprehensive setback requirements are included and cover surface water bodies, land surface features, wells, and other infrastructure.
<ul style="list-style-type: none"> Performance standards 	Performance standards are imposed only for new OWTS with supplemental treatment; however, conventional OWTS would still need to comply with Regional Water Board basin plans and local agency standards when more stringent than the basin plans. Statewide minimum performance standards are established for OWTS with supplemental treatment units.	Same as proposed project except for the use of a management and risk level matrix to provide guidance for installing OWTS in a wide range of site conditions and to provide authorization from the permitting agency for each management level to mitigate for adverse siting conditions, including the use of supplemental treatment. ²
<ul style="list-style-type: none"> Infiltrative surface application rates 	Specific maximum application rates apply when designing and sizing OWTS dispersal systems. These rates, in some cases, would be more stringent than local agency requirements because of the use of bottom area only.	Same as proposed project.
<ul style="list-style-type: none"> Lot size and density restrictions 	Lot size and density restrictions are not included in the proposed project. Instead, infiltrative surface application rates control the amount of effluent being discharged. Existing lot size requirements set by Santa Ana and Lahontan Regional Water Boards would still apply.	Same as proposed project
<ul style="list-style-type: none"> Engineered fill allowance 	If a site's native earthen material is not sufficient to meet minimum separation requirements, a narrowly defined engineered fill can be used under specific conditions, with pressurized distribution of effluent, to replace up to 1 foot of native soil. However, more stringent requirements would still apply at the Regional Water Board and local levels.	Same as proposed project

**Table 6-3
Major Differences Between the Proposed Project and the Prescriptive Alternative**

Topics	Proposed Project	Prescriptive Alternative
<ul style="list-style-type: none"> Restrictions on what types of wastewater can be treated 	Existing Title 22 and 24 restrictions would continue to apply; high-strength wastewater intended for treatment in OWTS must be treated to meet domestic wastewater quality levels before discharge and owners would need to submit a report of waste discharge.	Same as proposed project
<ul style="list-style-type: none"> Seepage pits 	Seepage pits would only be allowed if a qualified professional has determined that a site is not suitable for other types of dispersal systems, at least 10 feet of vertical separation to groundwater can be achieved, and at least 10 feet of unsaturated soil depth to an impermeable layer is available when using conventional treatment or less than 10 feet of unsaturated soil depth to an impermeable layer when using an OWTS with supplemental treatment.	Same as proposed project
<ul style="list-style-type: none"> Operation and maintenance manuals 	For all new and replaced OWTS, qualified professionals must prepare operation and maintenance manuals that include the listing of any substances that may cause pollution or a nuisance.	Same as proposed project
<ul style="list-style-type: none"> Cesspools 	Cesspools would no longer be allowed for new or replaced OWTS.	Same as proposed project
<ul style="list-style-type: none"> Groundwater level determinations 	Before installation of a new OWTS, if groundwater levels are not known to be greater than 10 feet below the surface, a qualified professional must follow specific methods to determine groundwater levels. Other methods may be followed if included in the applicable basin plan.	Same as proposed project, although procedures for determining groundwater levels are more prescriptive.
<ul style="list-style-type: none"> Septic tank standards 	Opening risers providing access to septic tanks would need to be watertight and placed within 6 inches of grade, and septic tanks must meet IAPMO standards or be certified by a licensed engineer as meeting industry standards. New standards would apply to new and replaced systems.	Septic tanks would need to have at least two access openings using risers that allow access to the tank interior, each at least 24 inches in diameter. The certification or requirement to meet IAPMO standards would be the same as for the proposed project. New standards would apply to new and replaced systems.
<ul style="list-style-type: none"> Filter requirements 	The proposed project would require certified septic tank effluent filters (3/16 inch) to be included in all new and replaced systems.	Same as proposed project
<ul style="list-style-type: none"> Groundwater mounding³ and other unique studies 	Groundwater mounding or other unique studies would not be required by the proposed project.	Same as proposed project
2. Requirements for OWTS Adjacent to Impaired Water Bodies		
Protection of impaired surface water bodies where OWTS contribute to impairment	All new OWTS within 600 feet of certain surface water bodies ⁴ would need to meet performance requirements using supplemental treatment units; exceptions to this requirement are described below. ⁵ Existing systems within 600 feet must be evaluated and may need to be retrofitted.	Same as proposed project

Table 6-3 Major Differences Between the Proposed Project and the Prescriptive Alternative		
Topics	Proposed Project	Prescriptive Alternative
3. Requirements Authorizing Local Implementation		
<ul style="list-style-type: none"> Use of WDRs and conditional WDR waivers 	The State Water Board is proposing a statewide waiver in conjunction with the proposed regulations; Regional Water Boards may adopt subsequent waivers or WDRs that are more restrictive. The local permitting agencies would issue building permits.	Same as proposed project
<ul style="list-style-type: none"> Regional Water Board relationship to local agencies 	The proposed regulations establish minimum statewide requirements for construction, operation, and maintenance of OWTS. Local agencies would be allowed to help the State Water Board and Regional Water Boards implement the new statewide regulations through agreement, adopted resolution, or an MOU. Any MOU, adopted resolution, or similar agreement must require compliance with the new regulations and the applicable basin plan.	Same as proposed project
<ul style="list-style-type: none"> Large and commercial OWTS owners 	Owners of new and/or expanded large systems (with daily wastewater flows of 3,500 gallons per day or more) would continue to file reports of waste discharge with Regional Water Boards.	Same as proposed project
4. Corrective Actions Requirements		
<ul style="list-style-type: none"> Corrective actions when OWTS fail to meet regulatory requirements 	Where corrective actions are identified as being needed, the system owner would have 90 days to correct the problem; an extension would be possible, but not beyond 180 days.	Same as proposed project
5. Minimum Monitoring Requirements		
<ul style="list-style-type: none"> Groundwater quality monitoring 	Groundwater quality near existing and new OWTS would be monitored every 5 years through mandatory testing of water from domestic or monitoring wells for bacteria and a suite of water quality constituents. OWTS owners that do not have a domestic well on their property would not need to comply with this requirement.	Same as proposed project
<ul style="list-style-type: none"> Septic tank inspections 	Owners of conventional systems and OWTS with supplemental treatment units would be required to have inspections every 5 years to evaluate the accumulation of septic tank solids.	Same as proposed project
<ul style="list-style-type: none"> Monitoring of effluent from OWTS with supplemental treatment units 	Effluent from all OWTS with supplemental treatment for disinfection would be monitored weekly to ensure compliance with related performance standards. Owners of all other OWTS with supplemental treatment units would be required to comply with their operation and maintenance manuals.	Same as proposed project
<ul style="list-style-type: none"> Alarms and pump systems for supplemental treatment units 	All supplemental treatment units and OWTS using pump systems would need to be equipped with visual or audible alarms and typically telemetric alarms to alert OWTS owners and their service providers in the event of a system malfunction.	Same as proposed project

Table 6-3 Major Differences Between the Proposed Project and the Prescriptive Alternative		
Topics	Proposed Project	Prescriptive Alternative
6. Exemption Criteria		
<ul style="list-style-type: none"> Criteria for allowing exemptions 	The proposed regulations allow few exemptions for deviating from the minimum requirements set forth therein. Regional Water Boards would be allowed to adopt WDRs that allow exemptions from some requirements. Minor exemptions would be allowed from the methods for determination of groundwater levels. OWTS in impaired areas would be exempt from conversion to supplemental treatment if certain specific conditions are met.	Same as proposed project
7. Requirements for Determining When an OWTS is Subject to a Major Repair		
<ul style="list-style-type: none"> Requirements for determining when a system needs a major repair (such a situation is generally considered to be needed when a system is deemed to be “failing”) 	A major repair, as defined for an OWTS constructed after the proposed regulations are implemented, is any repair required as a result of surfacing effluent. All owners of OWTS requiring major repairs would be required to correct the malfunctioning OWTS within 90 days of being notified by a local agency or Regional Water Board. Regional Water Boards may exempt a property from the 90-day requirement and extend the time frame, but such exemptions shall not extend beyond 180 days.	Same as proposed project
<p>Notes:</p> <p>¹ Setback restrictions typically include minimum distances that must be adhered to when siting an OWTS (e.g., 100 feet of separation between an OWTS and drinking water well)</p> <p>² The counties that do allow supplemental treatment systems usually allow them when such conditions as shallow groundwater, nitrate problems, or other problem situations exist.</p> <p>³ Groundwater mounding refers to the phenomenon of disposed effluent causing a rise, or mound, of the underlying groundwater elevation.</p> <p>⁴ This requirement applies to surface water bodies that have been impaired by nitrogen or pathogens, and where Regional Water Boards have adopted a TMDL and have identified OWTS as contributing to impairment.</p> <p>⁵ OWTS that would otherwise need to comply with the requirement above do not need to do so when (1) OWTS owners commit to connect to a wastewater collection and treatment system regulated through WDRs, or (2) a Regional Water Board has adopted a TMDL requiring implementation of a wastewater management plan that would result in either elimination or reduction of the OWTS contribution to the impairment.</p> <p>Source: Data compiled by EDAW in 2008</p>		

regional agencies to implement OWTS standards that are more environmentally protective than the ones they currently enforce. Most of the local agencies that would need to implement more environmentally protective OWTS standards are typically found in the rural portions of the state.

All of the other types of regulatory requirements included in this alternative, and listed in Tables 6-1 and 6-3, are the same as those found in the proposed project.

6.4.2 POTENTIAL ENVIRONMENTAL IMPACTS

The environmental impacts of the Prescriptive Alternative would for the most part be the same as, or similar to, those resulting from the proposed project. As described below, a few unique impacts would be associated with this alternative, and they would likely be limited to those counties where OWTS regulatory requirements are less environmentally protective than the types of prescriptive standards included in this alternative.

WATER QUALITY AND PUBLIC HEALTH

The potential water quality and public health impacts of this alternative would be indirect, fairly diffuse, and would vary from one jurisdiction to another. In those areas where OWTS regulations are currently less environmentally protective than the different types of prescriptive requirements included in the Prescriptive Alternative, the more comprehensive and protective requirements included in the Prescriptive Alternative would likely result in some benefits to water quality and public health, similar to those identified for the proposed project, for new systems and in instances where OWTS owners would be required to upgrade or replace their systems to comply with the new regulations (i.e., primarily for malfunctioning systems requiring replacement or major repair). However, as explained in Section 4.1 for the proposed project, effluent would continue to be discharged to groundwater that fails to meet WQOs, resulting in significant impacts on water quality and public health. Relative to the proposed project and its other alternatives, the Prescriptive Alternative would provide more specific guidance on how much vertical separation is needed between the bottom of a dispersal field and groundwater levels under a wide variety of soil types. More extensive soil testing would be required during the OWTS siting process than is currently conducted in many areas of the state. In those areas where existing OWTS requirements are less environmentally protective than those contained in the Prescriptive Alternative, this alternative could lead to a reduction in some contaminant concentrations before they reach groundwater.

Another way in which the Prescriptive Alternative could lead to indirect water quality and public health benefits would involve the OWTS management and risk-level table that would be adopted as part of this alternative. This table would require local and regional agencies to follow certain types of management actions based on site conditions, environmental sensitivity, and susceptibility of nearby receptors (e.g., requiring OWTS owners to use supplemental treatment or conduct monitoring in certain specific circumstances or requiring permitting agencies to implement an OWTS operating permit process). By adopting a detailed and specific table of management options tied to risk levels of various siting and environmental conditions, this alternative could potentially result in more closely controlled benefits to water quality and public health in some areas of the state, especially in those areas where the regulatory requirements would be more environmentally protective than those used by local or regional agencies under existing regulations or under the proposed project. These management options would provide statewide regulations that are more clearly delineated in their requirements than those of the proposed project; however, because the ultimate performance standards of the two alternatives are the same, the Prescriptive Alternative would have impacts similar to those of the proposed project.

Overall, however, the regulatory mechanisms and technologies relied on in the Prescriptive Alternative would be essentially the same as those identified for the proposed project. Similar concerns would result with regard to the inability of OWTS to adequately treat discharges to a degree that would allow them to meet WQOs. The Prescriptive Alternative would have similar impacts to those identified for the proposed project, including impacts relating to violation of WQOs for nitrogen that could be mitigated by upgrading all OWTS to include denitrification. This can be mitigated, like the project, by supplemental treatment for all systems; however, this

mitigation may be considered costly given that it would be needed regardless of whether a *specific* OWTS has a likelihood of causing an impact. If the State Water Board were to determine that this mitigation is infeasible for the reasons identified in Section 4.1, the impact would be significant and unavoidable.

BIOLOGICAL RESOURCES

As with the proposed project, the Prescriptive Alternative would likely result in some benefits to aquatic biological resources compared to existing conditions as a result of improvements in the quality of effluent reaching groundwater through more protective siting and technological requirements, for new systems and in instances where OWTS owners would be required to upgrade or replace their systems to comply with the new regulations (i.e., primarily for malfunctioning systems requiring replacement or major repair). Effluent would continue to be discharged to groundwater that fails to meet WQOs; however, the mass loading of nitrogen and its contribution to surface waters is too speculative to assess an impact on a statewide basis. Environmental and regulatory processes already in place statewide would also reduce the potential that groundwater impacts could lead to impacts on biological resources. The Prescriptive Alternative would more closely control siting and technological requirements based on specific site conditions, environmental sensitivity, and susceptibility of nearby receptors, and these more detailed requirements would likely result in additional benefits with regard to protection of aquatic resources.

Many of the relative improvements in biological resource impacts associated with the proposed project, as described in Section 4.2, would also occur with the Prescriptive Alternative. These benefits include reduced contamination of groundwater leading to lower levels of pollutants in surface waters as a result of:

- ▶ the use of alarms to indicate malfunctioning supplemental treatment units,
- ▶ mandatory 5-year groundwater monitoring,
- ▶ the use of septic tank filters on all new and replaced systems, and
- ▶ more frequent septic tank inspections and septage pumping.

Overall, the Prescriptive Alternative would result in similar impacts on biological resources as would be expected to occur with the proposed project.

LAND USE

Compared to some existing local or regional OWTS regulations, the Prescriptive Alternative would establish consistent statewide setback requirements based on siting considerations and environmental sensitivity that are intended to provide protection of existing and planned land uses, including nearby and utility-related infrastructure, and residential and commercial land uses. Therefore, this alternative could lead to conflicts with existing land use policies in some jurisdictions that are not identified as an impact of the proposed project.

Like the proposed project (and the Supplemental Treatment Alternative, described in subsection 6.6 below), the Prescriptive Alternative would not diminish the ability of cities and counties to exercise their land use planning functions, and would not change the regulatory framework that allows local governing bodies and regional water boards to share authority over land use decisions that could affect water quality in the state. However, specific siting restrictions could limit the buildability of some previously developable lots that would be unable to meet setbacks or other siting requirements or that might be required to use more expensive forms of treatment. However, this is a social and economic effect, rather than an adverse effect on the physical environment. From the perspective of CEQA, this is not a significant environmental impact.

Overall, the Prescriptive Alternative would result in similar impacts on land use as would be expected to occur with the proposed project.

6.5 MATRIX ALTERNATIVE

6.5.1 OVERVIEW OF CONDITIONS UNDER THIS ALTERNATIVE

The intent of the Matrix Alternative is twofold: (1) to minimize the potential for OWTS to contaminate groundwater because systems (particularly OWTS with supplemental treatment components) are sited in areas with inadequate depth to groundwater, and (2) to reduce the potential for OWTS to be sited at a density that could overwhelm the ability of the soil to provide adequate treatment of effluent before it reaches groundwater. The Matrix Alternative focuses on these issues primarily through two mechanisms: restrictions on the size of lots and density of development at which OWTS are permitted, and more strict regulations for the siting and performance of OWTS with supplemental treatment components. It is called the “Matrix” Alternative because the lot size and density restrictions would be presented in a matrix format to accommodate the number of variables that would need to be considered.

The major differences between the Matrix Alternative and the proposed project are summarized in Table 6-1 and more detail is provided in Table 6-4. The most prominent difference between this alternative and the proposed project and other alternatives are land use restrictions relating to lot size and density of development. The Matrix Alternative would create an OWTS regulatory environment notably different from the existing land use planning and OWTS approval process currently found in most of the state and described in Chapter 3. In most areas of the state, Regional Water Boards and/or local agencies do not have lot size or density restrictions in their OWTS-related permitting process (the exceptions are the Lahontan and Santa Ana Regional Water Boards, the local agencies found in those regions, and a few other local agencies, including Santa Cruz and Sonoma Counties). This alternative also would not allow any type of OWTS to be used on parcels created after adoption of the statewide regulations if such parcels are less than 1 acre in size if they have private wells or less than one-half acre in size if they rely on a community water supply system.

OWTS also would not be allowed in some locations based on observed soil percolation rates (i.e., rates slower than 5 minutes per inch or faster than 120 minutes per inch). OWTS would be allowed on parcels created before adoption of the statewide regulations if they have percolation rates as slow as 240 minutes per inch, and Regional Water Boards would be allowed to make exceptions to the percolation rate requirements of this alternative on a case-by-case basis. In general, the regions of California that include areas where percolation rates are slower than 5 minutes per inch are found in some locations in the slow-draining clay soils of the Central Valley, while the desert and volcanic regions found in southeastern and northeastern California may have areas with rates faster than 120 minutes per inch.

Construction and operation of OWTS may also be restricted in some areas by another regulatory requirement included in this alternative. As with the proposed project, engineered fill could be used to meet vertical separation requirements when certain restrictions are followed; however, unlike the proposed project, such fill could not be used to meet vertical separation requirements on parcels created after the effective date of the new regulations.

There are other aspects of this alternative that differ from the proposed project and the other alternatives described in this section. First, this is the only alternative that includes an additional pathogen performance standard for OWTS with supplemental treatment components that are not designed for disinfection or nitrogen reduction. This standard would apply to both existing and new systems and could require many owners to install relatively expensive sand filter systems if they decide to not use disinfection or nitrogen reduction systems. This alternative would also limit the use of supplemental treatment components with disinfection by allowing their use only on existing lots of record at the time the new regulations are adopted, and by requiring an additional 1 foot of vertical separation to groundwater (3 feet instead of 2 feet as required in the proposed project).

Regional Water Boards and local permitting agencies would have more discretion under this alternative with respect to total nitrogen performance standards. Instead of using the total nitrogen standard of 10 milligrams per

**Table 6-4
Major Differences Between the Proposed Project and the Matrix Alternative**

Topics	Proposed Project	Matrix Alternative
1. Minimum Operating Requirements		
Design, siting, and operational requirements		
<ul style="list-style-type: none"> General overview 	The proposed project would impose statewide minimum siting, site monitoring, and performance standards for conventional systems (e.g., seepage pits, tank requirements).	This alternative includes new restrictions on locations where OWTS can be sited based on lot sizes, densities, and soil percolation rates.
<ul style="list-style-type: none"> Groundwater (vertical) separation and soil percolation rate requirements 	New conventional OWTS must have at least 3 feet of continuous, unsaturated soil separating the bottom of the dispersal field and high groundwater, while new OWTS with supplemental treatment units must have 2 feet of unsaturated soil depth. Seepage pits must have at least 10 feet of vertical separation to groundwater whether or not supplemental treatment is included, and at least 10 feet of unsaturated soil depth below the bottom of the seepage pit and an impermeable layer unless supplemental treatment (disinfection) is included. Under certain soil conditions, both conventional OWTS and systems with supplemental treatment must use pressurized effluent distribution.	Groundwater separation and soil percolation requirements are the same as the proposed project, except OWTS would not be allowed in some locations based on observed rates of soil percolation. Also, OWTS with supplemental treatment for disinfection would need to have 1 extra foot of vertical separation (3 feet instead of the 2 feet required in the proposed project).
<ul style="list-style-type: none"> Setback requirements¹ 	The proposed project would not replace existing setback requirements.	Comprehensive setback requirements are included and cover surface water bodies, land surface features, wells, and other infrastructure.
<ul style="list-style-type: none"> Performance standards 	Performance standards are imposed only for new OWTS with supplemental treatment; however, conventional OWTS would still need to comply with Regional Water Board basin plans and local agency standards when more stringent than the basin plans. Statewide minimum performance standards are established for OWTS with supplemental treatment units. ²	Same as the proposed project. This alternative includes an additional pathogen standard for all OWTS with supplemental treatment that are not designed for active disinfection or nitrogen removal; this may require all such systems to use sand filters. Also, only existing lots of record at the time the regulations are adopted can use disinfection. Would allow Regional Water Boards to establish their own nitrogen performance standards for OWTS with supplemental treatment designed to reduce nitrogen.
<ul style="list-style-type: none"> Infiltrative surface application rates 	Specific maximum application rates apply when designing and sizing OWTS dispersal systems. These rates, in some cases, would be more stringent than local agency requirements because of the use of bottom area only.	Same as proposed project
<ul style="list-style-type: none"> Lot size or density restrictions 	Lot size and density restrictions are not included in the proposed project. Instead, infiltrative surface application rates control the amount of effluent being discharged. Existing lot size requirements set by Santa Ana and Lahontan Regional Water Boards would still apply.	This alternative would not allow OWTS on parcels created after adoption of these regulations if such parcels are less than 1 acre (if they have private wells), or less than one-half acre (if they are on a community water supply well).

**Table 6-4
Major Differences Between the Proposed Project and the Matrix Alternative**

Topics	Proposed Project	Matrix Alternative
<ul style="list-style-type: none"> Engineered fill allowance 	If a site's native earthen material is not sufficient to meet minimum separation requirements, a narrowly defined engineered fill can be used under specific conditions, with pressurized distribution of effluent, to replace up to 1 foot of native soil. However, more stringent requirements would still apply at the Regional Water Board and local levels.	Engineered fill would be allowed at a site to help meet minimum vertical separation requirements on existing parcels only; engineered fill would not be allowed to meet vertical separation requirements on parcels created after adoption of these regulations.
<ul style="list-style-type: none"> Restrictions on what types of wastewater can be treated 	Existing Title 22 and 24 restrictions would continue to apply; high-strength wastewater intended for treatment in OWTS must be treated to meet domestic wastewater quality levels before discharge and owners would need to submit a report of waste discharge.	Same as proposed project
<ul style="list-style-type: none"> Seepage pits 	Seepage pits would only be allowed if a qualified professional has determined that a site is not suitable for other types of dispersal systems, at least 10 feet of vertical separation to groundwater can be achieved, and at least 10 feet of unsaturated soil depth to an impermeable layer is available when using conventional treatment or less than 10 feet of unsaturated soil depth to an impermeable layer when using an OWTS with supplemental treatment.	Same as proposed project
<ul style="list-style-type: none"> Operation and maintenance manuals 	For all new and replaced OWTS, qualified professionals must prepare operation and maintenance manuals that include the listing of any substances that may cause pollution or a nuisance.	Same as proposed project
<ul style="list-style-type: none"> Cesspools 	Cesspools would no longer be allowed for new or replaced OWTS.	Same as proposed project
<ul style="list-style-type: none"> Groundwater level determinations 	Before installation of a new OWTS, if groundwater levels are not known to be greater than 10 feet below the surface, a qualified professional must follow specific methods to determine groundwater levels. Other methods may be followed if included in the applicable basin plan.	Same as proposed project; however, this alternative includes additional methods to be followed for determining the level of seasonal groundwater. In addition, it requires that shallow monitoring wells be installed for all new systems with less than 3 feet of separation.
<ul style="list-style-type: none"> Septic tank standards 	Opening risers providing access to septic tanks would need to be watertight and placed within 6 inches of grade, and septic tanks must meet IAPMO standards or be certified by a licensed engineer as meeting industry standards.	Same as proposed project
<ul style="list-style-type: none"> Filter requirements 	The proposed project would require certified septic tank effluent filters (3/16 inch) to be included in all new and replaced systems.	Same as proposed project
<ul style="list-style-type: none"> Groundwater mounding³ and other unique studies 	Groundwater mounding or other unique studies would not be required by the proposed project.	Groundwater mounding studies would be required with this alternative when proposed systems would discharge more than 1,000 gallons per day (gpd). Additional aquifer degradation and engineering analyses would be required in certain situations.

**Table 6-4
Major Differences Between the Proposed Project and the Matrix Alternative**

Topics	Proposed Project	Matrix Alternative
2. Requirements for OWTS Adjacent to Impaired Water Bodies		
Protection of impaired surface water bodies where on-site wastewater treatment systems (OWTS) contribute to impairment	All new OWTS within 600 feet of certain surface water bodies ⁴ would need to meet performance requirements using supplemental treatment units; exceptions to this requirement are described below. ⁵ Existing systems within 600 feet must be evaluated and may need to be retrofitted.	Same as proposed project
3. Requirements Authorizing Local Implementation		
<ul style="list-style-type: none"> Use of waste discharge requirements (WDRs) and conditional WDR waivers 	The State Water Board is proposing a statewide waiver in conjunction with the proposed regulations; Regional Water Boards may adopt subsequent waivers or WDRs that are more restrictive. The local permitting agencies would issue building permits.	The statewide waiver would be modified to conform to the Matrix Alternative.
<ul style="list-style-type: none"> Regional water board relationship to local agencies 	The proposed regulations establish minimum statewide requirements for construction, operation, and maintenance of OWTS. Local agencies would be allowed to help the State Water Board and Regional Water Boards implement the new statewide regulations through agreement, adopted resolution, or an MOU. Any MOU, adopted resolution, or similar agreement must require compliance with the new regulations and the applicable basin plan.	Same as proposed project
<ul style="list-style-type: none"> Large and commercial OWTS owners 	Owners of new and/or expanded large systems (with daily wastewater flows of 3,500 gallons per day or more) would continue to file reports of waste discharge with Regional Water Boards.	Same as proposed project
4. Corrective Actions Requirements		
Corrective actions when OWTS fail to meet regulatory requirements	Where corrective actions are identified as being needed, the system owner would have 90 days to correct the problem; an extension would be possible, but not beyond 180 days.	Same as proposed project
5. Minimum Monitoring Requirements		
Groundwater quality monitoring	Groundwater quality near existing and new OWTS would be monitored every 5 years through mandatory testing of water from domestic or monitoring wells for bacteria and a suite of water quality constituents. OWTS owners that do not have a domestic well on their property would not need to comply with this requirement.	Groundwater quality monitoring is the same as the proposed project except that OWTS owners on parcels that are 3 acres or greater would not need to meet monitoring requirements; this also includes additional groundwater monitoring for bacteria for new systems that would only have less than 3 feet of separation.
<ul style="list-style-type: none"> Septic tank inspections 	Owners of conventional systems and OWTS with supplemental treatment units would be required to have inspections every 5 years to evaluate the accumulation of septic tank solids.	Same as proposed project

**Table 6-4
Major Differences Between the Proposed Project and the Matrix Alternative**

Topics	Proposed Project	Matrix Alternative
<ul style="list-style-type: none"> Monitoring of STS effluent 	Effluent from all OWTS with supplemental treatment for disinfection would be monitored weekly to ensure compliance with related performance standards. Owners of all other OWTS with supplemental treatment units would be required to comply with their operation and maintenance manuals.	Same as proposed project
<ul style="list-style-type: none"> Alarms and pump systems for STS 	All supplemental treatment units and OWTS using pump systems would need to be equipped with visual or audible alarms and typically telemetric alarms to alert OWTS owners and their service providers in the event of a system malfunction.	Same as proposed project
6. Exemption Criteria		
Criteria for allowing exemptions	The proposed regulations allow few exemptions for deviating from the minimum requirements set forth therein. Regional Water Boards would be allowed to adopt WDRs that allow exemptions from some requirements. Minor exemptions would be allowed from the methods for determination of groundwater levels. OWTS in impaired areas would be exempt from conversion to supplemental treatment if certain specific conditions are met.	Same as proposed project
7. Requirements for Determining When an OWTS is Subject to a Major Repair		
Requirements for determining when a system needs a major repair (such a situation is generally considered to be needed when a system is deemed to be “failing.”)	A major repair, as defined for an OWTS constructed after the proposed regulations are implemented, is any repair required as a result of surfacing effluent. All owners of OWTS requiring major repairs would be required to correct the malfunctioning OWTS within 90 days of being notified by a local agency or Regional Water Board. Regional Water Boards may exempt a property from the 90-day requirement and extend the time frame, but such exemptions shall not extend beyond 180 days.	This alternative would require creation of new special districts at the local level to oversee maintenance of OWTS with supplemental treatment components and to determine when repairs to these systems are needed.
Notes: ¹ Setback restrictions typically include minimum distances that must be adhered to when siting an OWTS (e.g., 100 feet of separation between an OWTS and drinking water well) ² The counties that do allow supplemental treatment systems usually allow them when such conditions as shallow groundwater, nitrate problems, or other problem situations exist. ³ Groundwater mounding refers to the phenomenon of disposed effluent causing a rise, or mound, of the underlying groundwater elevation. ⁴ This requirement applies to surface water bodies that have been impaired by nitrogen or pathogens, and where Regional Water Boards have adopted a TMDL and have identified OWTS as contributing to impairment. ⁵ OWTS that would otherwise need to comply with the requirement above do not need to do so when (1) OWTS owners commit to connect to a wastewater collection and treatment system regulated through WDRs, or (2) a Regional Water Board has adopted a TMDL requiring implementation of a wastewater management plan that would result in either elimination or reduction of the OWTS contribution to the impairment. Source: Data compiled by EDAW in 2008		

liter (mg/l) included in the proposed project and the other alternatives, this alternative would allow local permitting agencies, in consultation with Regional Water Boards, to establish their own nitrogen performance standards.

New special districts would be created at the local level to oversee maintenance and repairs of OWTS with supplemental treatment components; the proposed project and other alternatives would not create any new agencies. The special districts would oversee such systems where they are used at new land developments of five or more lots, and where any lot is smaller than 3 acres. Existing developments using OWTS with supplemental treatment components, or developments where all of the lots are greater than 3 acres, would not need to be managed by a special district but would need to be inspected by the permitting agency during periods of high groundwater.

Similar to the proposed project, the Matrix Alternative includes required procedures for determining the level of seasonal groundwater before siting OWTS. However, the procedures specified in this alternative include more detailed requirements for determining the level of seasonal groundwater in locations where soil mottling observations cannot be made or lead to unreliable conclusions. As determined by Regional Water Boards, measurements of depths to seasonal high groundwater must be made periodically for lots created after adoption of the new regulations by assuming:

- ▶ 100% or greater average annual precipitation for conventional systems, and
- ▶ 125% or greater average annual precipitation for STS.

Measurements of depths to seasonal high groundwater must be made periodically for lots existing at the time the new regulations are adopted by assuming:

- ▶ 60% or greater average annual precipitation for conventional systems in areas with less than 25 inches per year average annual precipitation, or 80% or greater average annual precipitation where average annual precipitation is greater than 25 inches; and
- ▶ 80% or greater average annual precipitation for STS.

Finally, the Matrix Alternative would require additional groundwater monitoring for new systems that would have less than 3 feet of separation between the bottom of the dispersal field and seasonally high groundwater levels. Such monitoring can rely on telemetry and must be conducted during the period of highest groundwater levels (as determined by Regional Water Boards), and if it is determined that vertical separation is less than 3 feet for more than 1 week, or less than 2 feet at any time, then annual bacteria monitoring must be conducted.

6.5.2 POTENTIAL ENVIRONMENTAL IMPACTS

Given the restrictions relating to land use, soil percolation rate, engineered fill, and supplemental treatment performance requirements that are included in the Matrix Alternative, this alternative would likely restrict the number of new OWTS constructed in some areas of the state. Because OWTS are often constructed in relatively remote areas where construction or expansion of centralized sewer collection and treatment systems are typically not feasible, the restrictions included in this alternative could result in some lots not being developed at all and, in some areas, a shift in the construction of OWTS onto larger lots and in less dense development patterns than would occur under the proposed project and other alternatives.

WATER QUALITY AND PUBLIC HEALTH

Any widespread limitation on the total number of OWTS constructed or on the density of development patterns in developing areas would reduce OWTS discharges and associated contaminants reaching groundwater. Lower new OWTS densities would reduce OWTS contributions to cumulative water quality impacts. Because an estimated

50% of the people with new OWTS would also rely on private drinking water wells, this alternative could also result in reduced public health risks in lower density developments with new OWTS.

Several features of this alternative dealing with supplemental treatment components would cause additional improvements to water quality and public health compared to the proposed project. First, the Matrix Alternative includes a more environmentally protective pathogen standard for all OWTS with supplemental treatment that are not designed for active disinfection or nitrogen removal. Only existing lots of record at the time the regulations are adopted would be allowed to use disinfection, effectively limiting the locations where OWTS could be installed. The Matrix Alternative would also allow Regional Water Boards to establish their own nitrogen performance standards for OWTS with supplemental treatment designed to reduce nitrogen. Secondly, the formation of new special districts at the local level to oversee maintenance of these more complex systems and to determine when repairs are needed would provide additional oversight to ensure that these systems are operating properly.

Overall, some elements of the Matrix Alternative would be more protective of groundwater and public health than the proposed project because siting and density requirements would restrict the number of new OWTS.

BIOLOGICAL RESOURCES

The Matrix Alternative would include comprehensive setback requirements from surface water bodies, land surface features, wells, and other infrastructure. These setbacks are generally consistent with existing setbacks contained in local requirements. The project would not replace existing local setback requirements. Therefore, there is little difference between the Matrix and the project on the inclusion of setbacks in the Matrix alternative.

Overall, the Matrix Alternative and the project have similar impacts on biological resources.

LAND USE

With its restrictions relating to land use, soil percolation rate, engineered fill, and STS performance requirements, the Matrix Alternative could limit the ability of cities and counties to exercise their land use planning functions. While some local agencies already have lot size or density restrictions related to OWTS, this alternative would remove the ability of agencies to approve development projects that plan to use OWTS on lots that are less than 1 acre if they have private wells, or less than one-half acre if they are on a community water supply. This would undoubtedly change development patterns in some areas, possibly resulting in more open space and less residential and business development. Conflicts with existing land use policies, plans, or regulations could occur in those jurisdictions that currently allow development on smaller lots or allow the use of engineered fill to help meet vertical separation requirements.

Overall, the Matrix Alternative has the potential to create conflicts with existing land use policies, plans, and regulations in jurisdictions throughout the state; the proposed project does not have a similar potential.

6.6 SUPPLEMENTAL TREATMENT ALTERNATIVE

6.6.1 OVERVIEW

The Supplemental Treatment Alternative is identical to the proposed project except for one major difference (Table 6-5). All new and replaced OWTS throughout the state would be required to use supplemental treatment for nitrogen, BOD, and TSS after the new statewide regulations are adopted, and all existing conventional OWTS in the state would be required to be upgraded to include supplemental treatment components for nitrogen, BOD, and TSS within 9 years from the date when the proposed regulations go into effect. The performance standards included in the proposed project for supplemental treatment components would be included in this alternative.

**Table 6-5
Major Differences Between the Proposed Project and the Supplemental Treatment Alternative**

Topics	Proposed Project	Supplemental Treatment Alternative
1. Minimum Operating Requirements		
Design, siting, and operational requirements		
<ul style="list-style-type: none"> General overview 	The proposed project would impose statewide minimum siting, site monitoring, and performance standards for conventional systems (e.g., seepage pits, tank requirements).	Same as proposed project; because new conventional systems would no longer be installed and existing conventional systems would be required to upgrade to supplemental treatment within 9 years of adoption, eventually only performance standards for supplemental systems would apply.
<ul style="list-style-type: none"> Groundwater (vertical) separation and soil percolation rate requirement 	New conventional OWTS must have at least 3 feet of continuous, unsaturated soil separating the bottom of the dispersal field and high groundwater, while new OWTS with supplemental treatment units must have 2 feet of unsaturated soil depth. Seepage pits must have at least 10 feet of vertical separation to groundwater whether or not supplemental treatment is included, and at least 10 feet of unsaturated soil depth below the bottom of the seepage pit and an impermeable layer unless supplemental treatment (disinfection) is included. Under certain soil conditions, both conventional OWTS and systems with supplemental treatment must use pressurized effluent distribution.	Because new conventional systems would no longer be installed and existing conventional systems would be required to upgrade to supplemental treatment within 9 years of adoption, eventually all new systems would required to meet supplemental system standards for depth to groundwater (2 feet).
<ul style="list-style-type: none"> Setback requirements ¹ 	The proposed project would not replace existing setback requirements.	Same as proposed project
<ul style="list-style-type: none"> Performance standards 	Performance standards are imposed only for new OWTS with supplemental treatment; however, conventional OWTS would still need to comply with Regional Water Board basin plans and local agency standards when more stringent than the basin plans. Statewide minimum performance standards are established for OWTS with supplemental treatment units. ²	Same as proposed project; new conventional systems would no longer be installed and existing conventional systems would be required to upgrade to supplemental treatment within 9 years of adoption.
<ul style="list-style-type: none"> Infiltrative surface application rates 	Specific maximum application rates apply when designing and sizing OWTS dispersal systems. These rates, in some cases, would be more stringent than local agency requirements because of the use of bottom area only.	Same as proposed project
<ul style="list-style-type: none"> Lot size or density restrictions 	Lot size and density restrictions are not included in the proposed project. Instead, infiltrative surface application rates control the amount of effluent being discharged. Existing lot size requirements set by Santa Ana and Lahontan Regional Water Boards would still apply.	Same as proposed project

**Table 6-5
Major Differences Between the Proposed Project and the Supplemental Treatment Alternative**

Topics	Proposed Project	Supplemental Treatment Alternative
<ul style="list-style-type: none"> Engineered fill allowance 	If a site's native earthen material is not sufficient to meet minimum separation requirements, a narrowly defined engineered fill can be used under specific conditions, with pressurized distribution of effluent, to replace up to 1 foot of native soil. However, more stringent requirements would still apply at the Regional Water Board and local levels.	Same as proposed project
<ul style="list-style-type: none"> Restrictions on what types of wastewater can be treated 	Existing Title 22 and 24 restrictions would continue to apply; high-strength wastewater intended for treatment in OWTS must be treated to meet domestic wastewater quality levels before discharge and owners would need to submit a report of waste discharge.	Same as proposed project
<ul style="list-style-type: none"> Seepage pits 	Seepage pits would only be allowed if a qualified professional has determined that a site is not suitable for other types of dispersal systems, at least 10 feet of vertical separation to groundwater can be achieved, and at least 10 feet of unsaturated soil depth to an impermeable layer is available when using conventional treatment or less than 10 feet of unsaturated soil depth to an impermeable layer when using an OWTS with supplemental treatment.	Same as proposed project
<ul style="list-style-type: none"> Operation and maintenance manuals 	For all new and replaced OWTS, qualified professionals must prepare operation and maintenance manuals that include the listing of any substances that may cause pollution or a nuisance.	Same as proposed project
<ul style="list-style-type: none"> Cesspools 	Cesspools would no longer be allowed for new or replaced OWTS.	Same as proposed project
<ul style="list-style-type: none"> Groundwater level determinations 	Before installation of a new OWTS, if groundwater levels are not known to be greater than 10 feet below the surface, a qualified professional must follow specific methods to determine groundwater levels. Other methods may be followed if included in the applicable basin plan.	Same as proposed project
<ul style="list-style-type: none"> Septic tank standards 	Opening risers providing access to septic tanks would need to be watertight and placed within 6 inches of grade, and septic tanks must meet IAPMO standards or be certified by a licensed engineer as meeting industry standards. New standards would apply to new and replaced systems.	Same as proposed project
<ul style="list-style-type: none"> Filter requirements 	The proposed project would require certified septic tank effluent filters (3/16 inch) to be included in all new and replaced systems.	Same as proposed project
<ul style="list-style-type: none"> Groundwater mounding³ and other unique studies 	Groundwater mounding or other unique studies would not be required by the proposed project.	Same as proposed project

Table 6-5 Major Differences Between the Proposed Project and the Supplemental Treatment Alternative		
Topics	Proposed Project	Supplemental Treatment Alternative
2. Requirements for OWTS Adjacent to Impaired Water Bodies		
Protection of impaired surface water bodies where on-site wastewater treatment systems (OWTS) contribute to impairment	All new OWTS within 600 feet of certain surface water bodies ⁴ would need to meet performance requirements using supplemental treatment units; exceptions to this requirement are described below. ⁵ Existing systems within 600 feet must be evaluated and may need to be retrofitted.	All new OWTS would be required to include supplemental treatment and meet the performance standards identified for those units; within 9 years, all existing conventional systems would be required to upgrade to supplemental treatment.
3. Requirements Authorizing Local Implementation		
<ul style="list-style-type: none"> Use of waste discharge requirements (WDRs) and conditional WDR waivers 	The State Water Board is proposing a statewide waiver in conjunction with the proposed regulations; Regional Water Boards may adopt subsequent waivers or WDRs that are more restrictive. The local permitting agencies would issue building permits.	Same as proposed project
<ul style="list-style-type: none"> Regional water board relationship to local agencies 	The proposed regulations establish minimum statewide requirements for construction, operation, and maintenance of OWTS. Local agencies would be allowed to help the State Water Board and Regional Water Boards implement the new statewide regulations through agreement, adopted resolution, or an MOU. Any MOU, adopted resolution, or similar agreement must require compliance with the new regulations and the applicable basin plan.	Same as proposed project
<ul style="list-style-type: none"> Large and commercial OWTS owners 	Owners of new and/or expanded large systems (with daily wastewater flows of 3,500 gallons per day or more) would continue to file reports of waste discharge with Regional Water Boards.	Same as proposed project
4. Corrective Actions Requirements		
<ul style="list-style-type: none"> Corrective actions when OWTS fail to meet regulatory requirements 	Where corrective actions are identified as being needed, the system owner would have 90 days to correct the problem; an extension would be possible, but not beyond 180 days.	Same as proposed project
5. Minimum Monitoring Requirements		
<ul style="list-style-type: none"> Groundwater quality monitoring 	Groundwater quality near existing and new OWTS would be monitored every 5 years through mandatory testing of water from domestic or monitoring wells for bacteria and a suite of water quality constituents. OWTS owners that do not have a domestic well on their property would not need to comply with this requirement.	Same as proposed project
<ul style="list-style-type: none"> Septic tank inspections 	Owners of conventional systems and OWTS with supplemental treatment units would be required to have inspections every 5 years to evaluate the accumulation of septic tank solids.	Same as proposed project

**Table 6-5
Major Differences Between the Proposed Project and the Supplemental Treatment Alternative**

Topics	Proposed Project	Supplemental Treatment Alternative
<ul style="list-style-type: none"> Monitoring of STS effluent 	Effluent from all OWTS with supplemental treatment for disinfection would be monitored weekly to ensure compliance with related performance standards. Owners of all other OWTS with supplemental treatment units would be required to comply with their operation and maintenance manuals.	Same as proposed project
<ul style="list-style-type: none"> Alarms and pump systems for STS 	All supplemental treatment units and OWTS using pump systems would need to be equipped with visual or audible alarms and typically telemetric alarms to alert OWTS owners and their service providers in the event of a system malfunction.	Same as proposed project
6. Exemption Criteria		
<ul style="list-style-type: none"> Criteria for allowing exemptions 	The proposed regulations allow few exemptions for deviating from the minimum requirements set forth therein. Regional Water Boards would be allowed to adopt WDRs that allow exemptions from some requirements. Minor exemptions would be allowed from the methods for determination of groundwater levels. OWTS in impaired areas would be exempt from conversion to supplemental treatment if certain specific conditions are met.	Same as proposed project
7. Requirements for Determining When an OWTS is Subject to a Major Repair		
Requirements for determining when a system needs a major repair (such a situation is generally considered to be needed when a system is deemed to be “failing.”)	A major repair, as defined for an OWTS constructed after the proposed regulations are implemented, is any repair required as a result of surfacing effluent. All owners of OWTS requiring major repairs would be required to correct the malfunctioning OWTS within 90 days. Regional Water Boards may exempt a property from the 90-day requirement and extend the time frame, but such exemptions shall not extend beyond 180 days.	Same as proposed project
<p>Notes:</p> <p>¹ Setback restrictions typically include minimum distances that must be adhered to when siting an OWTS (e.g., 100 feet of separation between an OWTS and drinking water well)</p> <p>² The counties that do allow supplemental treatment systems usually allow them when such conditions as shallow groundwater, nitrate problems, or other problem situations exist.</p> <p>³ Groundwater mounding refers to the phenomenon of disposed effluent causing a rise, or mound, of the underlying groundwater elevation.</p> <p>⁴ This requirement applies to surface water bodies that have been impaired by nitrogen or pathogens, and where Regional Water Boards have adopted a TMDL and have identified OWTS as contributing to impairment.</p> <p>⁵ OWTS that would otherwise need to comply with the requirement above do not need to do so when (1) OWTS owners commit to connect to a wastewater collection and treatment system regulated through WDRs, or (2) a Regional Water Board has adopted a TMDL requiring implementation of a wastewater management plan that would result in either elimination or reduction of the OWTS contribution to the impairment.</p> <p>Source: Data compiled by EDAW in 2008</p>		

6.6.2 POTENTIAL ENVIRONMENTAL IMPACTS

This alternative has the potential to restrict development in areas throughout the state where OWTS owners cannot afford the higher costs associated with supplemental treatment (see Appendix G). The development-restricting potential of this alternative would likely be greatest in rural counties where personal incomes tend to be lower than in those areas that are within commuting range of higher-paying jobs in urban areas.

WATER QUALITY AND PUBLIC HEALTH

As new OWTS are installed that use supplemental treatment instead of conventional treatment technology, and as existing conventional systems are upgraded to supplemental treatment over a 9-year period, the Supplemental Treatment Alternative would result in a major reduction in the concentration of contaminants found in OWTS effluent. This would lead to major reductions in pollutant loadings to receiving, including groundwater. As shown in Table 2-6, contaminant concentrations in the effluent from supplemental treatment components can be substantially lower than such concentrations in the effluent from conventional systems. One of the major benefits of using supplemental treatment components designed to reduce nitrogen would be a major reduction in the amount of nitrogen reaching groundwater and, in some areas, surface water in those areas where these components are installed with new systems or replace conventional OWTS, because even good, deep soils have trouble removing nitrogen without the help of such components. In areas with good soil, the concentrations of other types of contaminants discharged from dispersal fields would still be reduced, but because good soil already does a good job of helping with the treatment of contaminants other than nitrogen, these benefits would be less pronounced. In areas with poor soils, the widespread (and eventually exclusive) use of supplemental treatment components would lead to water quality improvements for all types of contaminants because poor soil conditions are not helpful with treating effluent. The water quality benefits resulting from this alternative would also help reduce a number of public health risks associated with pathogens, nitrogen, endocrine disruptors, heavy metals, and other contaminants found in OWTS effluent. Even with regard to impacts that are less than significant for the proposed project, the Supplemental Treatment Alternative would provide a greater degree of environmental protection because of the requirement for statewide supplemental treatment. As part of this alternative, OWTS with supplemental treatment would be maintained by a service provider under contract, just as with the proposed project. Impacts identified for the proposed project as having the potential to be significant and unavoidable (most notably those relating to nitrogen removal) would, in most cases, be reduced to a less-than-significant level with the Supplemental Treatment Alternative for the reasons described above.

BIOLOGICAL RESOURCES

As described above, the Supplemental Treatment Alternative would result in statewide reductions in pollutant concentrations reaching groundwater and traveling to nearby surface waters because of the requirement for statewide supplemental treatment. As a result, impacts on aquatic resources, described for the proposed project as being less than significant, would be reduced to a greater degree.

On the other hand, as the use of supplemental treatment components becomes more commonplace and reliable in the long run, the rate of conversion from agricultural land use in rural areas with good soil to residential land uses may slow down, while undeveloped open space in nearby areas with more marginal soils and steeper slopes may be converted to residential land uses at a faster pace because of the availability of supplemental treatment technology. The notable pressure to develop the Central Valley's prime agricultural land, and a number of relevant land use trends related to the use of supplemental treatment components versus conventional OWTS is noted by a California State University, California study (Schiffman, Johns, and Banathy 2003). This study makes the point that as the valley's population is expected to more than double over the next 30 years or so, pressures will increase to convert farmland in relatively level areas with good soil to residential uses that rely on conventional OWTS. The authors make the point that much of this development pressure could be redirected to foothill areas with more marginal soils and steeper slopes if supplemental treatment is used instead of conventional systems, thus helping to preserve valuable farmland. This could happen if local governments adopt

the appropriate zoning needed to help redirect such development and implement OWTS policies that encourage the use of STS. Such a change in development patterns could be facilitated by this alternative because conventional systems would no longer be a choice for homeowners, and the widespread use of supplemental treatment could help make the technology more reliable and affordable over time. If local governments support the development of nonagricultural land instead of agricultural land, such a change in development patterns would benefit the wildlife and other natural resources that benefit from agricultural and watering practices; on the other hand, developing the wilder portions of the foothill areas, instead of agricultural lands, would cause environmental impacts in those areas.

LAND USE

The Supplemental Treatment Alternative could indirectly affect development patterns and restrict growth because of the greater expense that would be imposed on all OWTS owners statewide. Although this impact would not be a direct result of the requirement for statewide supplemental treatment, large areas of the state could be affected by the additional cost to property owners to meet this requirement. Although, similar to the proposed project, the Supplemental Treatment Alternative would allow local jurisdictions to retain OWTS regulations that are more protective, the requirement for statewide supplemental treatment would essentially force these jurisdictions to choose between allowing supplemental treatment and enacting a *de facto* ban on further development in areas not connected to sewer systems. This circumstance could, directly or indirectly, result in a conflict with local land use plans and policies, which would be a significant and unavoidable impact of the alternative's regulatory approach.

6.7 IDENTIFICATION OF THE ENVIRONMENTALLY SUPERIOR ALTERNATIVE

As stated in State CEQA Guidelines Section 15126.6(e)(2), EIRs must identify the environmentally superior alternative. As described at the beginning of this chapter, the purpose of an alternative to the proposed project is to meet most of the project objectives while reducing significant impacts of the proposed project. Table 6-6 compares the relative environmental impacts of the five alternatives with the impacts of the proposed project.

Based on this analysis, the alternative that would be environmentally superior by meeting most of the project objectives while reducing significant impacts of the proposed project is the Supplemental Treatment Alternative. The Supplemental Treatment Alternative would require statewide supplemental treatment, resulting in reduced pollutant concentrations in groundwater and, potentially, in downstream surface waters. The alternative could indirectly result in restrictions on the amount of new OWTS development, and thus could cause preservation of agricultural land that might otherwise be developed under the proposed project or other alternatives. This alternative would reduce to a less-than-significant level the potentially significant and unavoidable impacts of nitrogen concentrations that exceed WQOs, as identified for the proposed project. For these reasons, the Supplemental Treatment Alternative would be environmentally superior to the proposed project or other alternatives.

The Supplemental Treatment Alternative could, however, also result in significant and unavoidable impacts relating to conflicts with land use plans and policies of local jurisdictions. In addition, the costs associated with implementing this alternative—in particular, the cost to all OWTS owners of replacing their existing conventional systems with systems that include supplemental treatment components, but also the increased cost to new property owners of installing supplemental treatment instead of conventional OWTS—could make this alternative infeasible as a statewide regulatory approach to OWTS construction and operation. In that case, the environmentally superior of the remaining alternatives would be the proposed project, which would result in improved conditions compared to existing regulatory structure but would continue to result in adverse impacts on groundwater and potentially on downstream surface waters, unless mitigation measures are implemented that are similar to the potentially infeasible elements of the Supplemental Treatment Alternative.

Table 6-6 Comparison of Impacts of the Alternatives with Those of the Proposed Project				
Impact Area	No Project (Status Quo) Alternative	Prescriptive Alternative	Matrix Alternative	Supplemental Treatment Alternative
Water quality and public health	Greater	Similar	Less	Less
Biological resources	Greater	Similar	Similar	Less
Land use	Similar	Similar	Greater	Greater
Source: Prepared by EDAW in 2008				